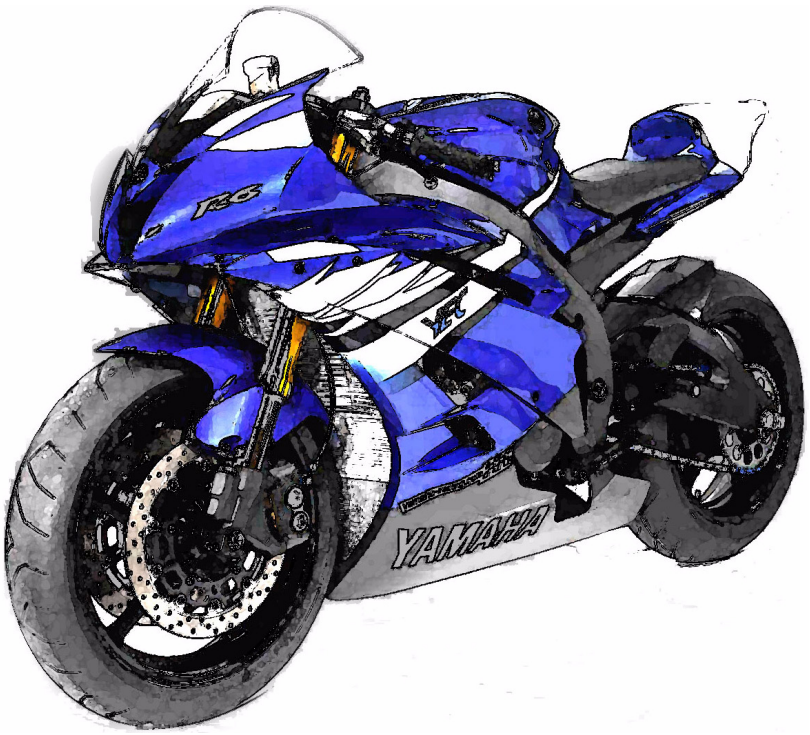
'08 YZF-R6

SS KIT MANUAL



The Performance Edge

YEC RACING PARTS

for excellent riders

Introduction

- Please understand that these parts are not covered by warranty.
- The manufacturer does not take any responsibility for problems caused by these parts.
- These kit parts are intended exclusively for racing purposes. You are strictly requested not to use them on public roads.
- The specifications and usage methods of these kit parts along with the contents of this manual are subject to change without notice for improvement.
- This manual is intended for persons with knowledge and experience of motorcycles. Please refer to the YZF-R6 service manual, which shall be published from YAMAHA MOTOR CO.LTD., for information on part assembly and maintenance.
- The design of the YZF-R6 racing kit is based on YZF-R6, according to FIM racing rules, but that does not mean the kit conforms to all competitions.
  When used in races, riders must mount the YZF-R6 racing kit at their own discretion after checking the rules of competition issued by the sponsor.

Parts List Symbols

- The star mark (*) means that the part is included in the kit set and is a genuine Yamaha part. Therefore, you can easily purchase the part at any Yamaha part dealer when necessary.
- The circle mark (°) means that when needed, the individual part is sold separately to the kit set.

	No.	PART No.	PART NAME	Q'TY	REMARKS
*	1	2C0-11181-76	GASKET, CYLINDER HEAD	3	t=0.45mm
*	2	2C0-11603-00	PISTON RING SET	12	
*	3	93450-16159	CIRCLIP	24	
	4	2C0-1165A-00	BOLT, CONNECTING ROD	24	
*	5	90179-07001	NUT	24	
*	6	4SV-12119-00	SEAL, VALVE STEM OIL	48	
*	7	2C0-12213-00	GASKET, TENSIONER	3	
°	8	2C0-13414-70	GASKET, STRAINER	3	ANTI STICK TYPE
°	9	2C0-15451-70	GASKET, CRANKCASE	3	ANTI STICK TYPE

Symbol Marks

The information necessary for correct handling and inspections and maintenance is shown with the following symbol marks.

CAUTION: **This indicates the possibility of injury or material damage occurring if mishandled.**

NOTE: **This shows the method for correct operation and the points for inspection and maintenance.**

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1 Engine Specifications

Spec	
Displacement	599cc
Maximum engine speed (limiter controlled speed)	16000rpm
Bore/Stroke	67.0 × 42.5mm
Valve timing (event angle) INT. EXT.	 = 110° = 110°
Squish height	0.60mm
Clearance between the valve and the piston INT. EXT.	 = 1.10 12° ATDC = 1.62 12° BTDC
Clearance of valves (tappet) INT. EXT.	 = 0.20 targeted (0.18 – 0.22) = 0.25 targeted (0.23 – 0.27)

2 Kit Parts

2-1 Engine Parts

1. Maintenance Set (2C0-MAINT-71)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
*	1	2C0-11181-76	GASKET, CYLINDER HEAD	3	t=0.45mm
*	2	2C0-11603-00	PISTON RING SET	12	
*	3	93450-16159	CIRCLIP	24	
	4	2C0-1165A-00	BOLT, CONNECTING ROD	24	
*	5	90179-07001	NUT	24	
*	6	4SV-12119-00	SEAL, VALVE STEM OIL	48	
*	7	2C0-12213-00	GASKET, TENSIONER	3	
°	8	2C0-13414-70	GASKET, STRAINER	3	ANTI STICK TYPE
°	9	2C0-15451-70	GASKET, CRANKCASE COVER 1	3	ANTI STICK TYPE
°	10	2C0-15461-70	GASKET, CRANKCASE COVER 2	3	ANTI STICK TYPE
°	11	2C0-15456-70	GSKT., 1	3	ANTI STICK TYPE
*	12	93102-35017	SEAL, OIL	3	FOR DRIVE AXLE
*	13	90151-06024	SCREW, CROSSRECESSED COUNTERSUNK	9	FOR BEARING HOUSING

2. Spark plug set (5FL-R045Q-70)

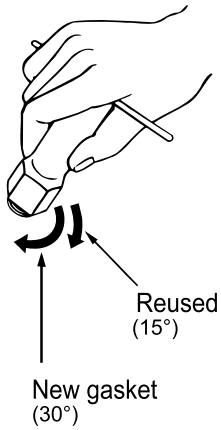
Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	5FL-94700-70	PLUG, SPARK	4	NGK R0045Q-10

NOTE:

Since these spark plugs have a copper gasket, caution is needed during installation on the following points.

1. **The tightening torque is 10 – 12 N•m (1.0 – 1.2 kgf•m).**
2. **When not checking the torque, tighten by rotating through 30° after manual tightening in the case of new plugs. When reusing plugs, tighten by rotating through 15°.**



3. Head Gasket

Parts List

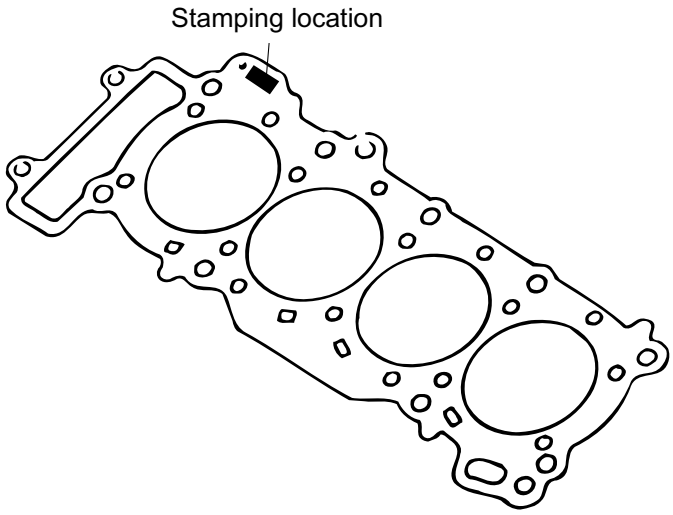
	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-11181-71	GASKET, CYLINDER HEAD	1	t=0.40mm
	2	2C0-11181-76	GASKET, CYLINDER HEAD	1	t=0.45mm
	3	2C0-11181-81	GASKET, CYLINDER HEAD	1	t=0.50mm
	4	2C0-11181-86	GASKET, CYLINDER HEAD	1	t=0.55mm

The thickness of the standard parts is 0.60mm.

These parts are used to adjust the squish height. In normal cases, use the one with -76 (0.45mm). After processing the cylinder (upper case), make sure to check the squish height and use the gasket so that the squish height becomes 0.60mm or above.

NOTE:

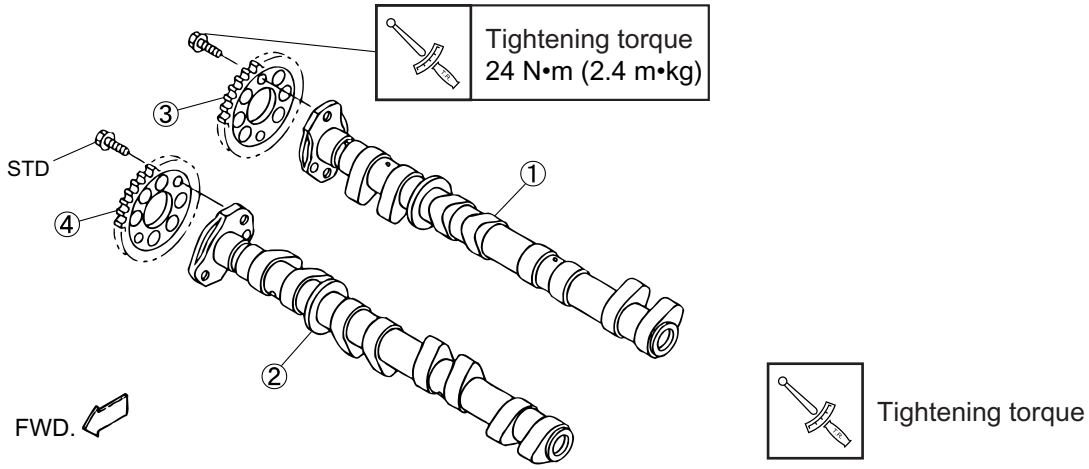
Squish height means the gap between the flat portion of the piston and the head cylinder.



4. Cam Shaft and Cam Sprocket

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-12171-71	SHAFT, CAM 1	1	
	2	2C0-12181-71	SHAFT, CAM 2	1	
	3	2C0-12176-70	SPROCKET, CAM 1	1	
	4	2C0-12177-70	SPROCKET, CAM 2	1	



Assembly of Cam Sprocket

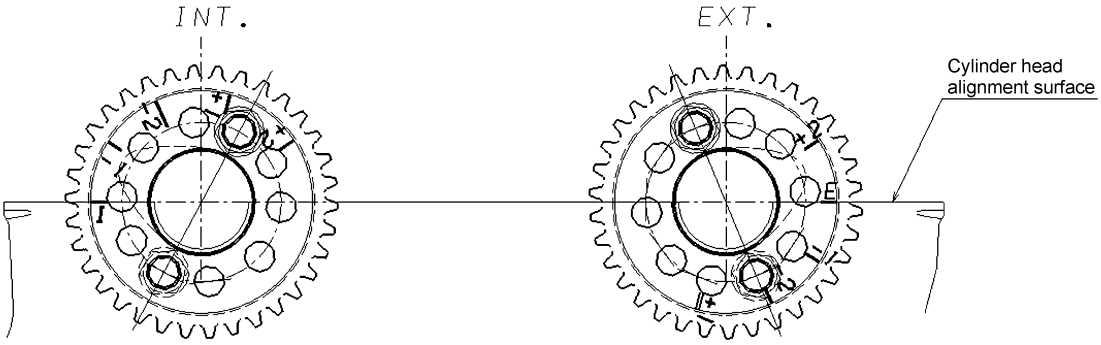
For the cam sprocket for racing kit, there are 5 mounting holes at the angle of ±1° and ±2° against standard mounting. Use of these holes enables regulation of valve timings.

The following figure shows standard positions of the holes.
Align the timing mark of I (intake) and E (exhaust) to the alignment surface of the cylinder head upper surface. To regulate the valve timing, align the timing mark imprinted on the cam sprocket to adjust the angle shown by the timing mark figure against the standard angle.

CAUTION:

- **Make sure to align the valve timing when the camshaft is assembled. If otherwise, no intended performance can be expected and more over, the engine may be damaged.**
- **When using this camshaft, use the valve spring set 2C0-A2110-70.**

Sprocket assembly position



5. Valve Spring Set (2C0-A2110-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-12113-70	SPRING,1	8	For 2C0-12171-71 (INT)
	2	2C0-12114-70	SPRING,2	8	For 2C0-12181-71 (EXT)
	3	2C0-12117-70	RET., VALVE SPRING	16	

- This set will be effective in improving the engine performance and durability if it is provided exclusively for the kit cam shaft and used in combination.

CAUTION:

When using this valve spring, use the camshafts 2C0-12171-71, and 2C0-12181-71.

6. Oil Pump (2C0-13300-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-13300-70	OIL PUMP ASSY	1	

- This pump is capable of a larger discharge than the STD counterpart.

7. Air Funnel Set (2CO-A4460-80)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1		FUNNEL	2	L=15.9mm

- This set is capable of higher intake efficiency than the STD counterpart.

NOTE:

- **The air cleaner case is fastened by the STD funnel. Remove the STD funnel and mount the plate.**
- **Apply a thin amount of grease to the screws of the funnel and plate before attaching.**

This set is made by MG Competition. For details of the specification, please check with MG Competition.

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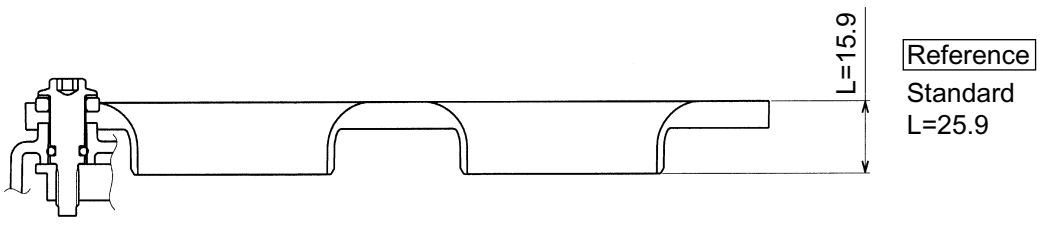
FAX +33 (0) 4 50 25 59 98

Web http://www.mgcompetition.fr/



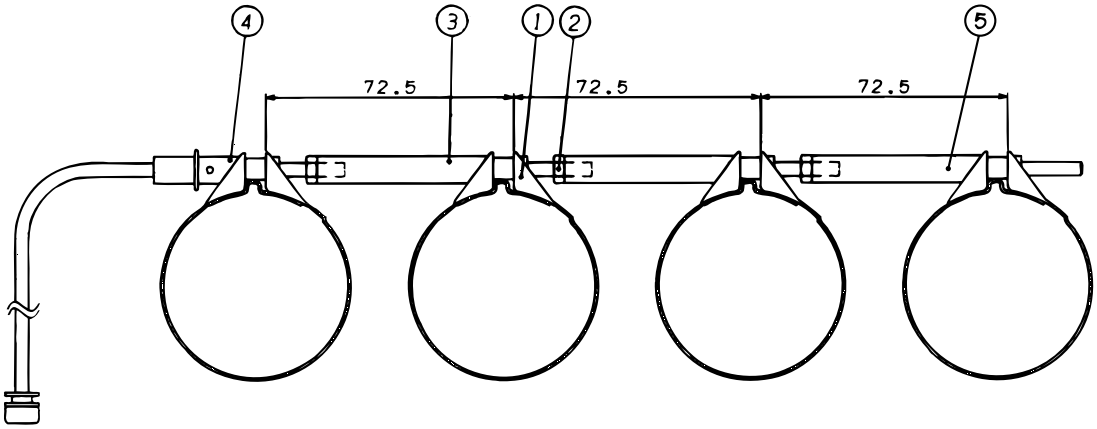
Selecting the Funnel

In addition to the funnel set in the KIT, the ycci system mounted on the STD vehicle can also be used. This is capable of being controlled (in operation timing etc.) by the use of YMS software accompanying KIT ECU. (ycci control is possible by using 2 kinds of basic control data (SS spec and ST spec) included in KIT ECU.

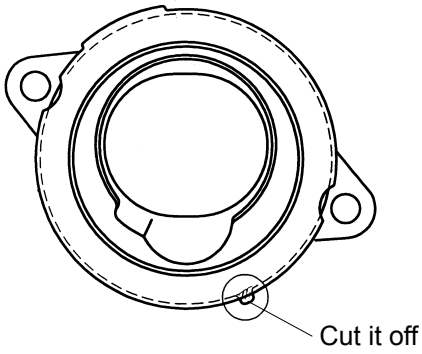
8. Throttle Body Clamp Assembly (2CO-1351A-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
*	1	90450-56005	HOSE CLAMP ASSY.	4	
*	2	95307-04600	NUT, HEX.	3	
	3	5SL-13573-70	BOLT, 1	2	
	4	5SL-1358A-70	ROD COMP.	1	
	5	2C0-13573-70	BOLT, 1	1	



This part is used to enhance maintenance performance of the throttle body. Before using it, cut off the protrusion for positioning bands at the cabjoint.



The part has a collar to prevent over-tightening. In normal cases, the part will not be tightened till it reaches to the collar. Just manually tighten it.
Make sure to put a new band through a M4 x 0.7 tap before using it.

9. AIS Plug Set (13S-A4890-70)

This plug set is used when the AIS (Air Induction System), an exhaust gas purification system, is removed.

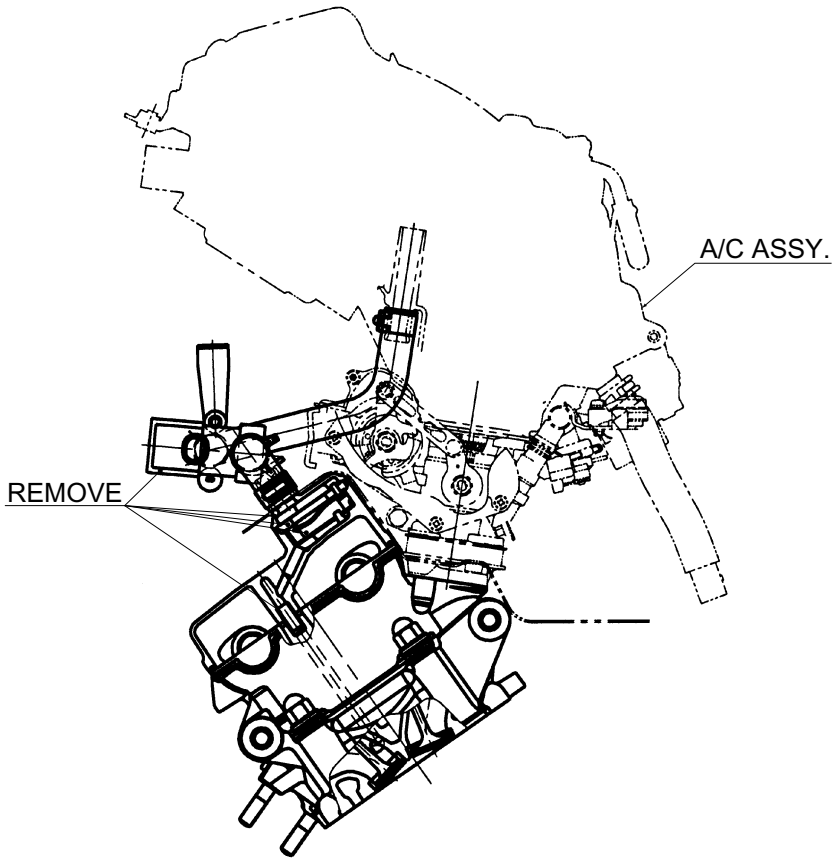
Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	5SL-1482L-70	PLATE, 2	2	
*	2	93608-16M16	PIN, DOWEL	4	
	3	90336-10020	PLUG, TAPER	1	

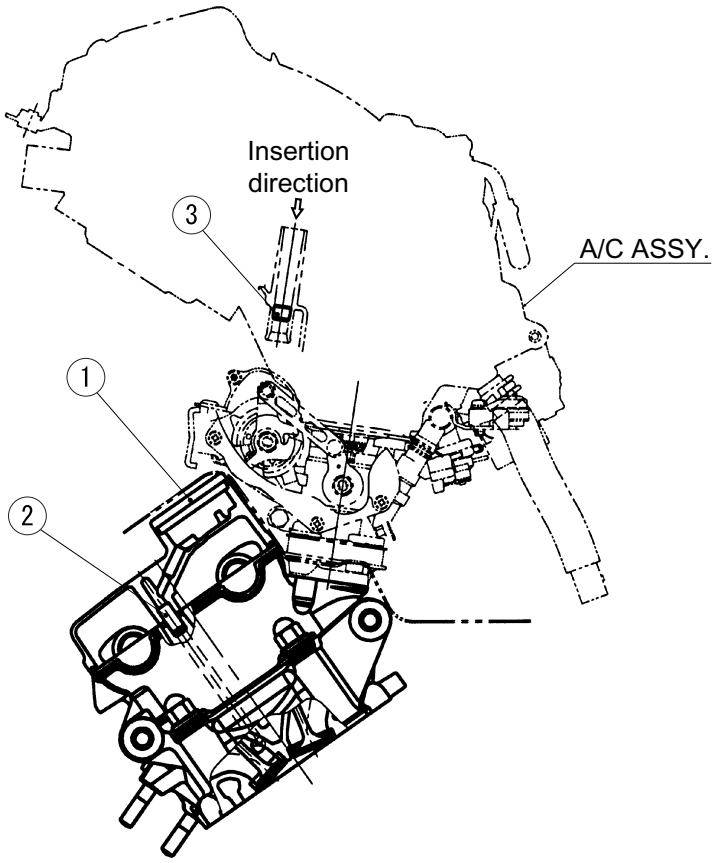
Installation

1. Remove the hose attached to the cylinder head cover and the air cut-off valve assembly accompanying the hose.
2. Remove the cap fitted to the hose and remove the reed valve and plate from the inside.
3. Install the plate (5SL-1482L-70) in replacement of the cap. Apply liquid gasket to the plate.
4. Remove the cylinder head cover and the four collars fitted to the cover. Install the PIN (93608-16M16).
5. After removing the hose connected to the air cleaner case from the air-cut valve assembly, open the upper case of the air cleaner case and insert the PLUG (90336-10020) into the hole where the hose was connected.

STD



KIT



10. Clutch Spring Set (2CO-A6330-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-16334-70	SPRING, CLUTCH 2	6	

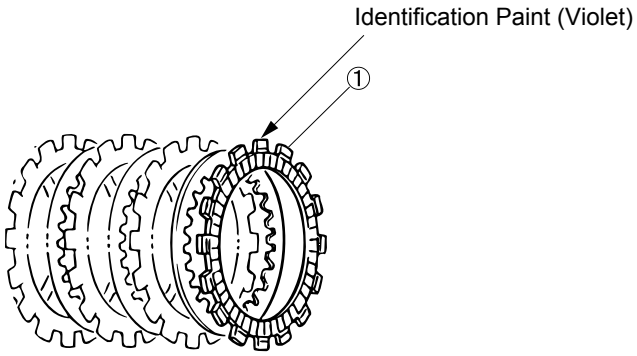
The clutch spring has a 20% higher mounting load on the STD.

11. Friction Plate Set (2CO-A6321-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	5EB-16321-72	PLATE, FRICTION 1	9	

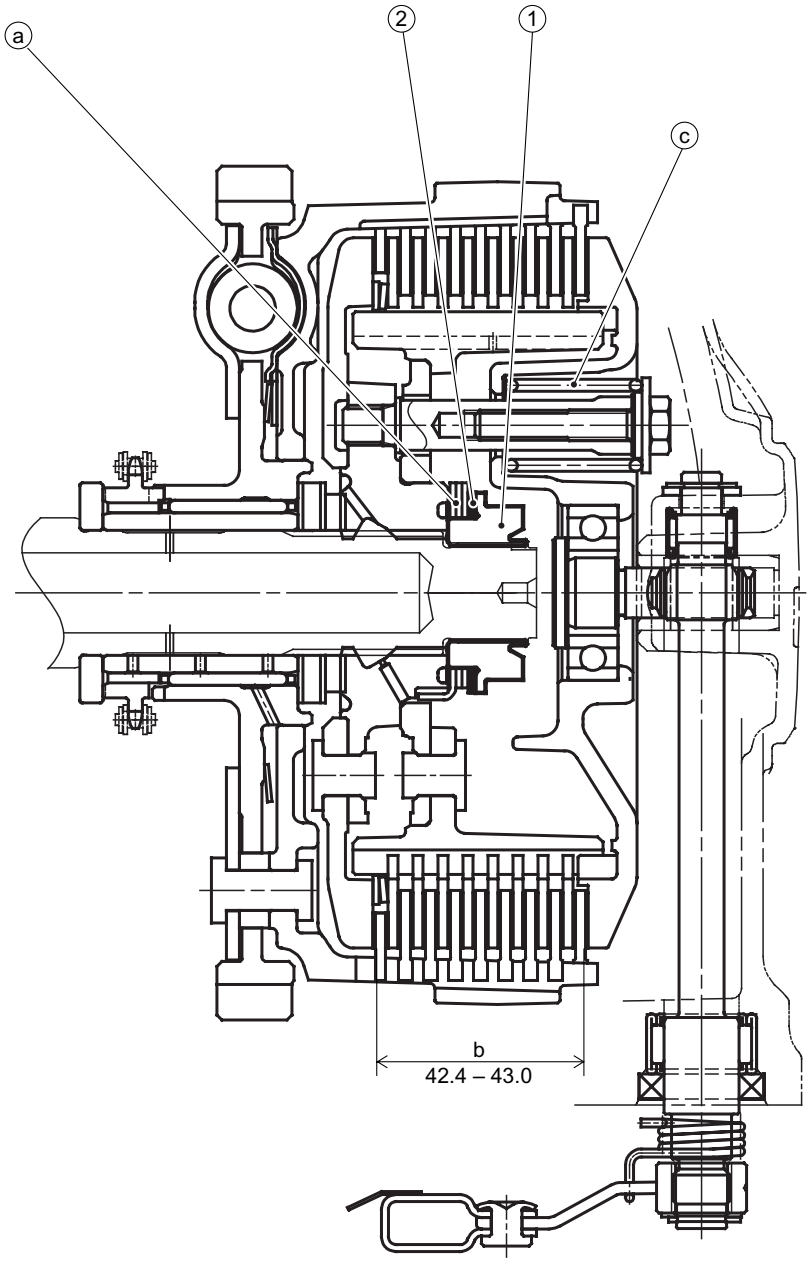
Compared to STD, the friction plate enhances durability and operation.



12. Slipper Clutch Setting Set (4B1-A6377-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
*	1	4B1-16377-70	NUT, LOCK	1	
*	2	4B1-16391-70	SHIM	3	



(Setting of back torque limiter of clutch).

A clutch with a back torque limiter mechanism is installed in the YZF-R6 SP engines. The operation of the back torque limiter can be adjusted through adjusting: ② the number of SHIMs (set up for the kit); ⓐ the number of springs; ⓑ the whole thickness of the clutch plate; and the strength of ⓒ spring (set up for the kit) of the slipper clutch setting set.

(Recommended setting method)

To begin with, the dimensions of the clutch are re-set to the standard values. (For details, please refer to the service manual published from YAMAHA MOTOR CO. LTD.

↓

When the ① ② slipper clutch setting sets are to be installed, and the number of the SHIMs are to be three in stack, the setting may be carried out according to the standard.

↓

ⓒ Spring may be selected from either one of the kit parts or the standard parts. Spring load of the kit parts is designed to increase in 10% as compared with that of the standard parts.

When installing the kit parts, the back torque limiter tends not to be effective (Engine braking becomes more effective).

↓

When decreasing the number of SHIMs (standard setting is three) of slipper clutch setting set, the back torque limiter tends to be effective (Engine braking becomes less effective).

Standard

3 → 2 → 1 → 0

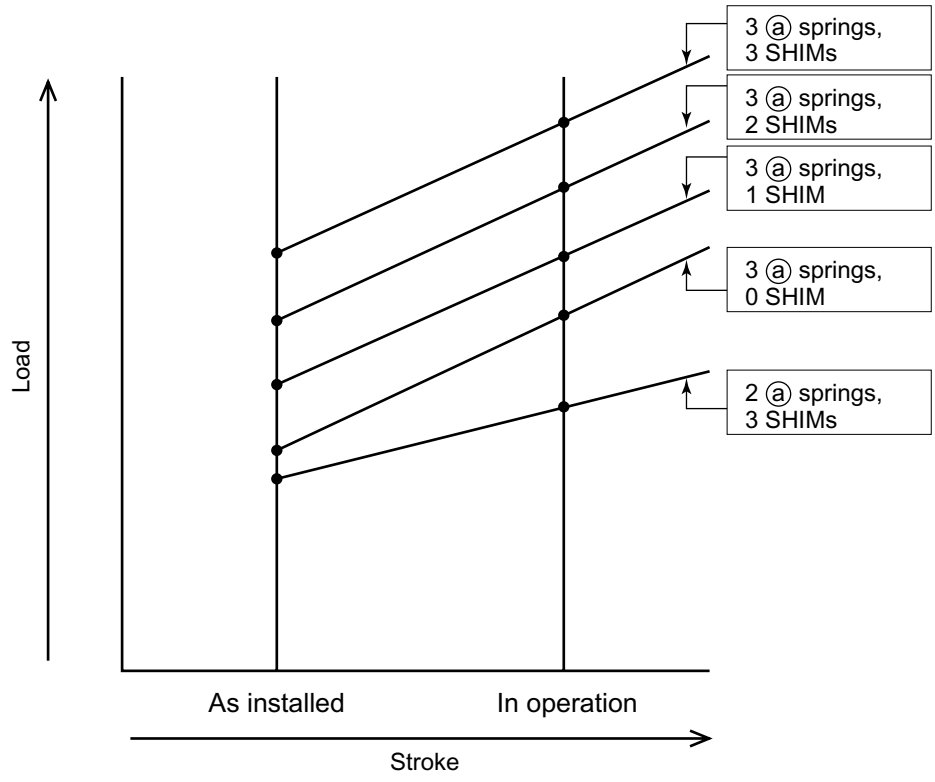
effective
(Engine braking becomes less effective)

↓

Further, when decreasing the number of ⓐ spring (the number of standard setting is three) to two, the back torque limiter becomes effective (Engine braking becomes less effective).

CAUTION:

When decreasing the number of ⓐ spring to two, the caution should be taken to surely use three pieces of SHIMs for the slipper clutch setting set. If its number being less than the above, the less load may be supported so as to exert serious influences on driving. Decreasing the number of ⓐ spring to one is not allowed.



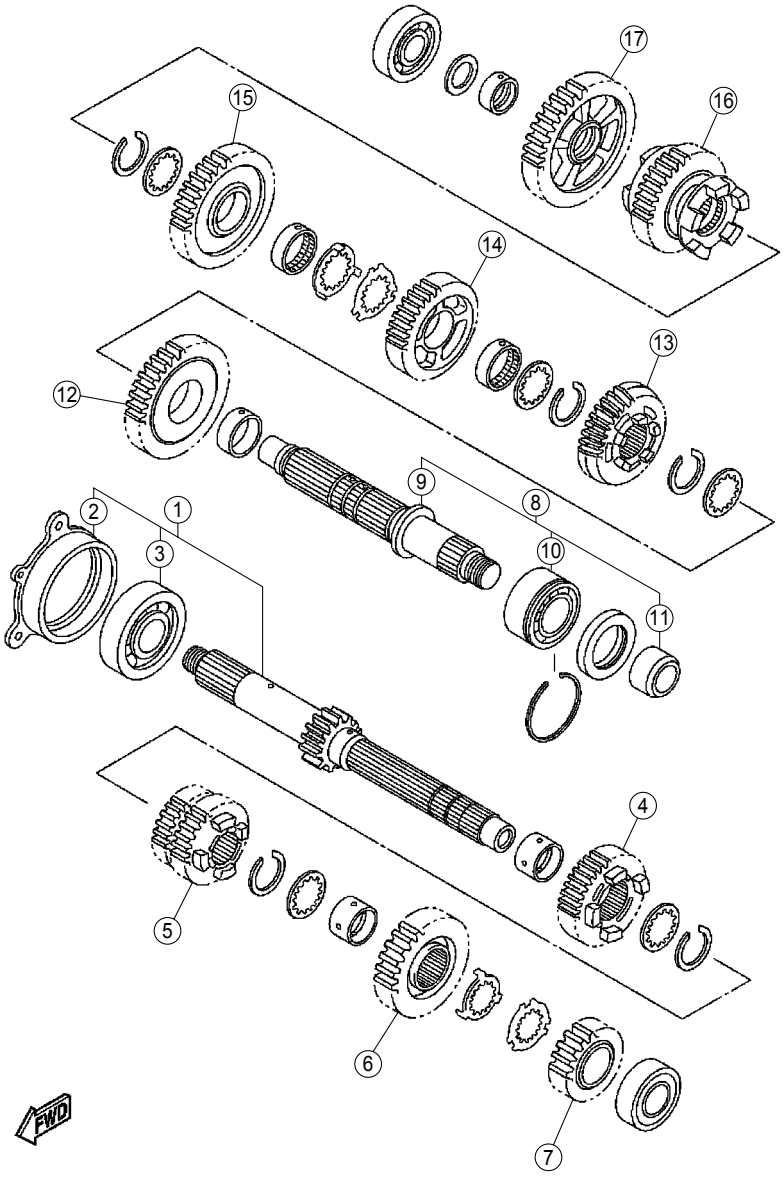
13. Transmission Gear

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-17411-80-A	AXLE, MAIN	1	A
	1	2C0-17411-90-B	AXLE, MAIN	1	B
*	1	2C0-17411-00	AXLE, MAIN	1	C
*	2	2C0-15163-00	HSG., BEARING	1	
*	3	93306-20562	BRG.	1	
	4	2C0-17151-71-A	GEAR, 5TH PINION	1	A
	4	2C0-17151-80-B	GEAR, 5TH PINION	1	B
	4	2C0-17151-90-C	GEAR, 5TH PINION	1	C
	5	2C0-17131-80-A	GEAR, 3RD PINION	1	A
	5	2C0-17131-71-B	GEAR, 3RD PINION	1	B
	5	2C0-17131-90-C	GEAR, 3RD PINION	1	C
	6	2C0-17161-70-A	GEAR, 6TH PINION	1	A
*	6	2C0-17161-00	GEAR, 6TH PINION	1	B
	6	2C0-17161-90-C	GEAR, 6TH PINION	1	C
	7	2C0-17121-80-A	GEAR, 2ND PINION	1	A
	7	2C0-17121-90-B	GEAR, 2ND PINION	1	B
*	7	2C0-17121-00	GEAR, 2ND PINION	1	C
	8	2C0-17402-70	DRIVE, AXLE ASSY.	1	
*	9	2C0-17421-00	AXLE, DRIVE	1	
*	10	93305-20509	BRG.	1	
*	11	90387-25016	COLLAR	1	
	12	2C0-17221-81-A	GEAR, 2ND WHEEL	1	A
	12	2C0-17221-90-B	GEAR, 2ND WHEEL	1	B
*	12	2C0-17221-00	GEAR, 2ND WHEEL	1	C
	13	2C0-17261-71-A	GEAR, 6TH WHEEL	1	A
	13	2C0-17261-80-B	GEAR, 6TH WHEEL	1	B
	13	2C0-17261-90-C	GEAR, 6TH WHEEL	1	C
	14	2C0-17241-80-A	GEAR, 4TH WHEEL	1	A
	14	2C0-17241-70-B	GEAR, 4TH WHEEL	1	B
	14	2C0-17241-90-C	GEAR, 4TH WHEEL	1	C
	15	2C0-17231-80-A	GEAR, 3RD WHEEL	1	A
	15	2C0-17231-70-B	GEAR, 3RD WHEEL	1	B
	15	2C0-17231-90-C	GEAR, 3RD WHEEL	1	C
	16	2C0-17251-71-A	GEAR, 5TH WHEEL	1	A
	16	2C0-17251-80-B	GEAR, 5TH WHEEL	1	B
	16	2C0-17251-90-C	GEAR, 5TH WHEEL	1	C
	17	2C0-17211-80-A	GEAR, 1ST WHEEL	1	A
	17	2C0-17211-90-B	GEAR, 1ST WHEEL	1	B

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
*	17	2C0-17211-00	GEAR, 1ST WHEEL	1	C



- Gear Ratio

	std	A	B	C
1st	31/12 (2.583)	37/16 (2.313)	42/17 (2.471)	31/12 (2.583)
2nd	32/16 (2.000)	39/21 (1.857)	39/20 (1.950)	32/16 (2.000)
3rd	30/18 (1.667)	36/23 (1.565)	29/18 (1.611)	30/18 (1.667)
4th	26/18 (1.444)	25/18 (1.389)	26/18 (1.444)	28/19 (1.474)
5th	27/21 (1.286)	33/26 (1.269)	30/23 (1.304)	27/20 (1.350)
6th	23/20 (1.150)	25/22 (1.136)	23/20 (1.150)	26/22 (1.182)

CAUTION:

- **No gear can be used for the kit transmission except for the specified STD gear.**
- **There is no compatibility with the '06 model transmission set (2C0-A7400-70).**

YZF-R6 Mission ratio

			Pinion gear			Wheel gear		
GEAR	PLAN	Ratio	Part number	The number of teeth	Stamp	Part number	The number of teeth	Stamp
1ST	A	2.313	2C0-17411-80-A	16	A	2C0-17211-80-A	37	A
	B	2.471	2C0-17411-90-B	17	B	2C0-17211-90-B	42	B
	C	2.583	2C0-17411-00	12		2C0-17211-00	31	
2ND	A	1.857	2C0-17121-80-A	21	A	2C0-17221-81-A	39	A
	B	1.950	2C0-17121-90-B	20	B	2C0-17221-90-B	39	B
	C	2.000	2C0-17121-00	16		2C0-17221-00	32	
3RD	A	1.565	2C0-17131-80-A	23	A	2C0-17231-80-A	36	A
	B	1.611	2C0-17131-71-B	18	B	2C0-17231-70-B	29	B
	C	1.667	2C0-17131-90-C	18	C	2C0-17231-90-C	30	C
4TH	A	1.389	2C0-17131-80-A	18	A	2C0-17241-80-A	25	A
	B	1.444	2C0-17131-71-B	18	B	2C0-17241-70-B	26	B
	C	1.474	2C0-17131-90-C	19	C	2C0-17241-90-C	28	C
5TH	A	1.269	2C0-17151-71-A	26	A	2C0-17251-71-A	33	A
	B	1.304	2C0-17151-80-B	23	B	2C0-17251-80-B	30	B
	C	1.350	2C0-17151-90-C	20	C	2C0-17251-90-C	27	C
6TH	A	1.136	2C0-17161-70-A	22	A	2C0-17261-71-A	25	A
	B	1.150	2C0-17161-00	20		2C0-17261-80-B	23	B
	C	1.182	2C0-17161-90-C	22	C	2C0-17261-90-C	26	C

Make sure that the pinion and wheel gear are combined for use according to the chart plan.

YZF-R6 Speed List

Engine speed (rpm) 16000
Tire radius (mm) 315 perimeter (m) 1.979
Primary reduction ratio 41 85 2.073

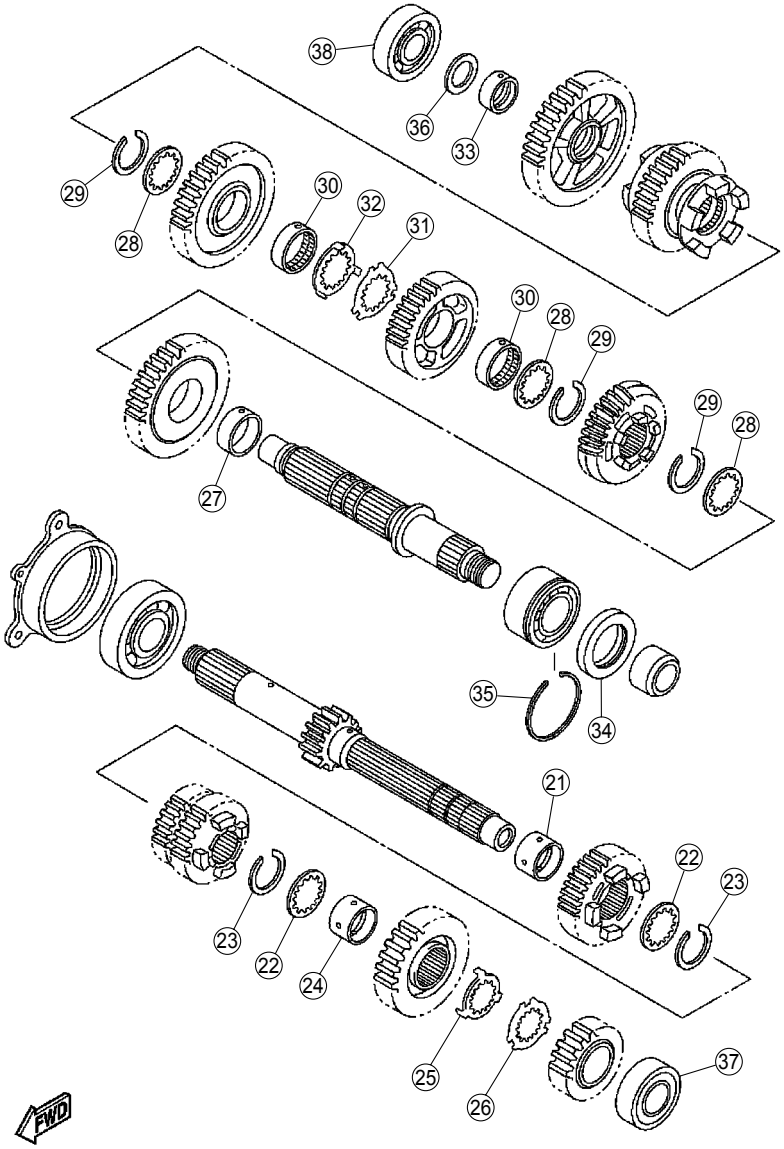
GEAR	PLAN	The number of teeth		Ratio	16	16	16	16	15	16	15	16	15	16	15	14	16	15	14	15	14	15	14	15	14	14	14	14	Engine side	Secondary reduction ratio (Sprocket)
		P	W		45	46	47	48	45	49	46	50	47	51	48	45	52	49	46	50	47	51	48	52	49	50	51	52	Wheel side	
1st	A	16	37	2.313	140.9	137.9	134.9	132.1	132.1	129.4	129.2	126.8	126.5	124.3	123.8	123.3	121.9	121.3	120.6	118.9	118.1	116.6	115.6	114.3	113.2	111.0	108.8	106.7	Speed (km/h)	
	B	17	42	2.471	131.9	129.0	126.3	123.7	123.7	121.1	121.0	118.7	118.4	116.4	115.9	115.4	114.1	113.6	112.9	111.3	110.5	109.1	108.2	107.0	106.0	103.9	101.8	99.9		
	C	12	31	2.583	126.1	123.4	120.8	118.3	118.3	115.8	115.7	113.5	113.2	111.3	110.9	110.4	109.2	108.6	108.0	106.4	105.7	104.3	103.5	102.3	101.4	99.3	97.4	95.5		
2nd	A	21	39	1.857	175.5	171.6	168.0	164.5	164.5	161.1	160.9	157.9	157.5	154.8	154.2	153.5	151.8	151.1	150.2	148.0	147.0	145.1	143.9	142.4	141.0	138.2	135.5	132.9		
	B	20	39	1.950	167.1	163.5	160.0	156.7	156.7	153.5	153.3	150.4	150.0	147.4	146.9	146.2	144.6	143.9	143.0	141.0	140.0	138.2	137.1	135.6	134.3	131.6	129.0	126.5		
	C	16	32	2.000	162.9	159.4	156.0	152.7	152.7	149.6	149.4	146.6	146.2	143.8	143.2	142.6	141.0	140.3	139.5	137.5	136.5	134.8	133.7	132.2	130.9	128.3	125.8	123.4		
3rd	A	23	36	1.565	208.2	203.7	199.3	195.2	195.2	191.2	190.9	187.4	186.9	183.7	183.0	182.2	180.2	179.2	178.2	175.7	174.4	172.2	170.8	168.9	167.3	163.9	160.7	157.6		
	B	18	29	1.611	202.3	197.9	193.7	189.6	189.6	185.7	185.5	182.0	181.5	178.5	177.8	177.0	175.0	174.1	173.1	170.7	169.4	167.3	165.9	164.1	162.5	159.3	156.2	153.2		
	C	18	30	1.667	195.5	191.3	187.2	183.3	183.3	179.6	179.3	176.0	175.5	172.5	171.8	171.1	169.2	168.3	167.4	165.0	163.8	161.7	160.4	158.6	157.1	154.0	151.0	148.0		
4th	A	18	25	1.389	234.6	229.5	224.6	220.0	220.0	215.5	215.2	211.2	210.6	207.0	206.2	205.3	203.0	202.0	200.8	198.0	196.6	194.1	192.5	190.3	188.5	184.8	181.1	177.7		
	B	18	26	1.444	225.6	220.7	216.0	211.5	211.5	207.2	206.9	203.0	202.5	199.1	198.3	197.4	195.2	194.2	193.1	190.3	189.0	186.6	185.1	183.0	181.3	177.7	174.2	170.8		
	C	19	28	1.474	221.1	216.3	211.7	207.3	207.3	203.1	202.8	199.0	198.5	195.1	194.3	193.5	191.4	190.4	189.3	186.6	185.2	182.9	181.4	179.4	177.7	174.1	170.7	167.4		
5th	A	26	33	1.269	256.7	251.2	245.8	240.7	240.7	235.8	235.5	231.1	230.5	226.5	225.7	224.6	222.2	221.0	219.8	216.6	215.1	212.4	210.6	208.3	206.3	202.2	198.2	194.4		
	B	23	30	1.304	249.8	244.4	239.2	234.2	234.2	229.4	229.1	224.8	224.2	220.4	219.6	218.6	216.2	215.1	213.8	210.8	209.3	206.7	204.9	202.7	200.8	196.7	192.9	189.2		
	C	20	27	1.350	241.4	236.1	231.1	226.3	226.3	221.7	221.4	217.2	216.7	213.0	212.1	211.2	208.9	207.8	206.6	203.7	202.2	199.7	198.0	195.8	194.0	190.1	186.4	182.8		
6th	A	22	25	1.136	286.8	280.5	274.6	268.8	268.8	263.3	263.0	258.1	257.4	253.0	252.0	250.9	248.2	246.9	245.5	242.0	240.2	237.2	235.2	232.6	230.4	225.8	221.4	217.1		
	B	20	23	1.150	283.4	277.2	271.3	265.6	265.6	260.2	259.9	255.0	254.3	250.0	249.0	247.9	245.2	244.0	242.5	239.1	237.4	234.4	232.4	229.9	227.7	223.1	218.8	214.6		
	C	22	26	1.182	275.7	269.7	264.0	258.5	258.5	253.2	252.9	248.2	247.5	243.3	242.3	241.3	238.6	237.4	236.0	232.6	231.0	228.1	226.2	223.7	221.6	217.1	212.9	208.8		

- Values in the speed table may vary slightly according to tire manufacturer and size.
- Select after referring to the value in the speed table.

14. Mission Maintenance Set (2C0-A7000-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
*	21	90387-250R3	COLLAR	3	
*	22	90209-21332	WASHER	6	
*	23	93440-25186	CIRCLIP	10	
*	24	90387-21003	COLLAR	3	
*	25	90209-22352	WASHER	3	
*	26	90209-21351	WASHER	3	
*	27	90387-28011	COLLAR	3	
*	28	90209-25011	WASHER	9	
*	29	93440-28184	CIRCLIP	15	
*	30	90387-25015	COLLAR	6	
*	31	90214-25004	WASHER, CLAW	3	
*	32	90214-25003	WASHER, CLAW	3	
*	33	90387-21004	COLLAR	3	
*	34	93102-35017	SEAL, OIL	3	
*	35	93440-52014	CIRCLIP	5	
*	36	90201-20278	WASHER, PLAIN	3	
*	37	93306-20464	BRG.	3	
*	38	93306-20464	BRG.	3	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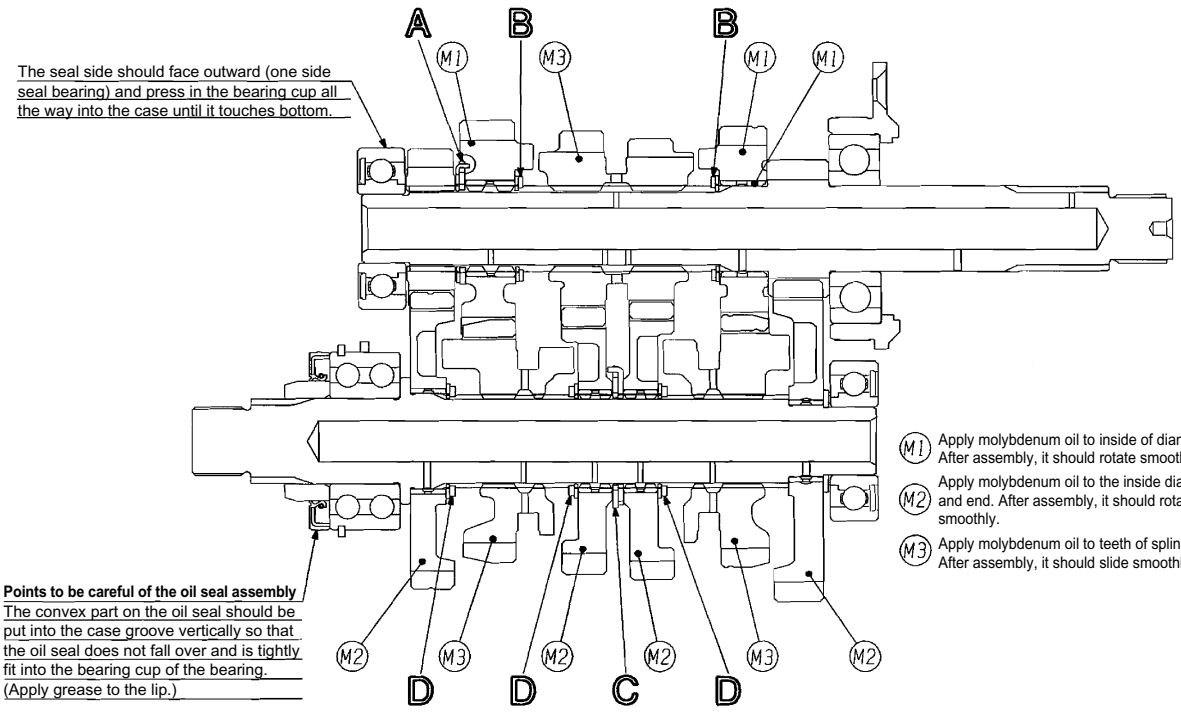
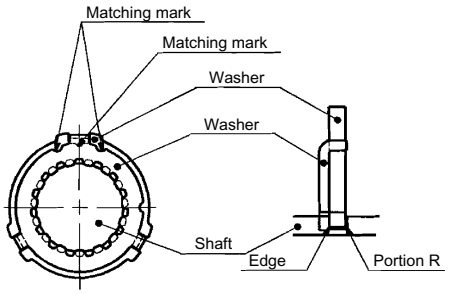
FWD

Transmission Assembly

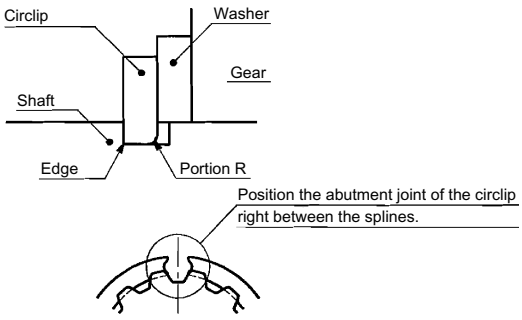

A
B
B
M1
M3
M1
M1
The seal side should face outward (one side seal bearing) and press in the bearing cup all the way into the case until it touches bottom.
M1 Apply molybdenum oil to inside of diameter. After assembly, it should rotate smoothly.
M2 Apply molybdenum oil to the inside diameter and end. After assembly, it should rotate smoothly.
M3 Apply molybdenum oil to teeth of spline. After assembly, it should slide smoothly.
Points to be careful of the oil seal assembly
The convex part on the oil seal should be put into the case groove vertically so that the oil seal does not fall over and is tightly fit into the bearing cup of the bearing. (Apply grease to the lip.)
M2
M3
M2
M2
M3
M2
D
D
C
D

NOTE:

- **Always use a new circlip.**
- **Do not mistake the washer and circlip directions. (See drawing below.)**

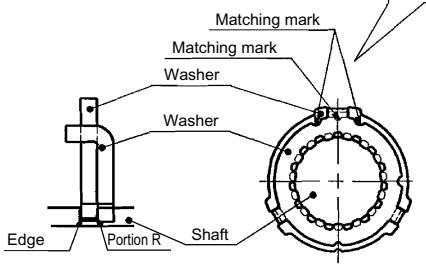


A Detail of installation of washer

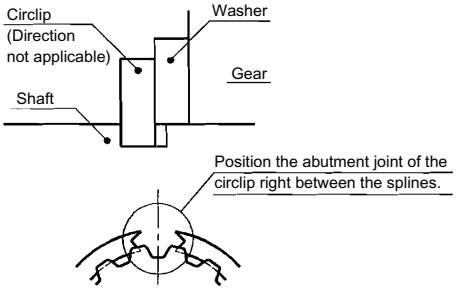


B Detail of installation of circlip

Rotate washer so that its teeth meet axle-spline teeth on the axle, and then lock with washer's claw.
Assemble washer with putting together their matching mark.



C Detail of installation of washer



D Detail of installation of circlip

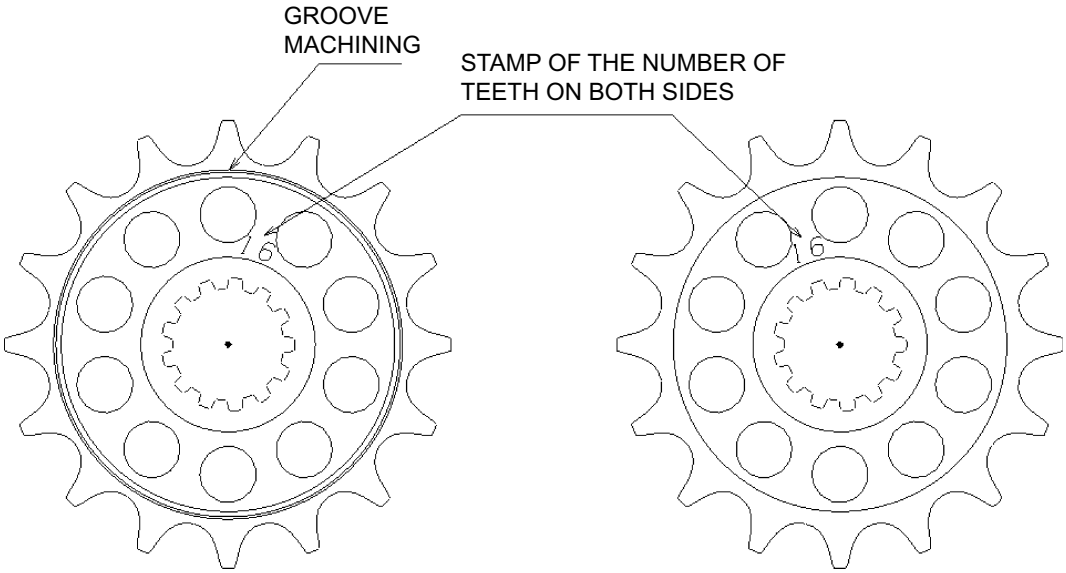
15. Drive Sprocket

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-17460-74	SPROCKET, DRIVE	1	14T
	2	2C0-17460-75	SPROCKET, DRIVE	1	15T
	3	2C0-17460-76	SPROCKET, DRIVE	1	16T

These parts are for 520 chains (STD=525 chain).
Use the nuts for the kit to mount the drive sprocket.

These sprockets are manufactured to be compatible with new and old models.



2CO ('06 and after YZF-R6)

Install with the grooved surface facing outside of the chassis.

5SL ('05 and previous YZF-R6)

Install with the grooved surface facing inside of the chassis.

CAUTION:

Take care not to install the sprocket in the wrong direction. If it is installed in the wrong direction, it will cause the misalignment of the drive and rear sprockets, leading to the loss of power.

16. Sprocket Nut Set (2C0-A7463-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	90179-20005	NUT, SPROCKET	1	
*	2	90215-21256	WASHER, TONGUED	1	

17. ACM Set (2C0-F1400-71)

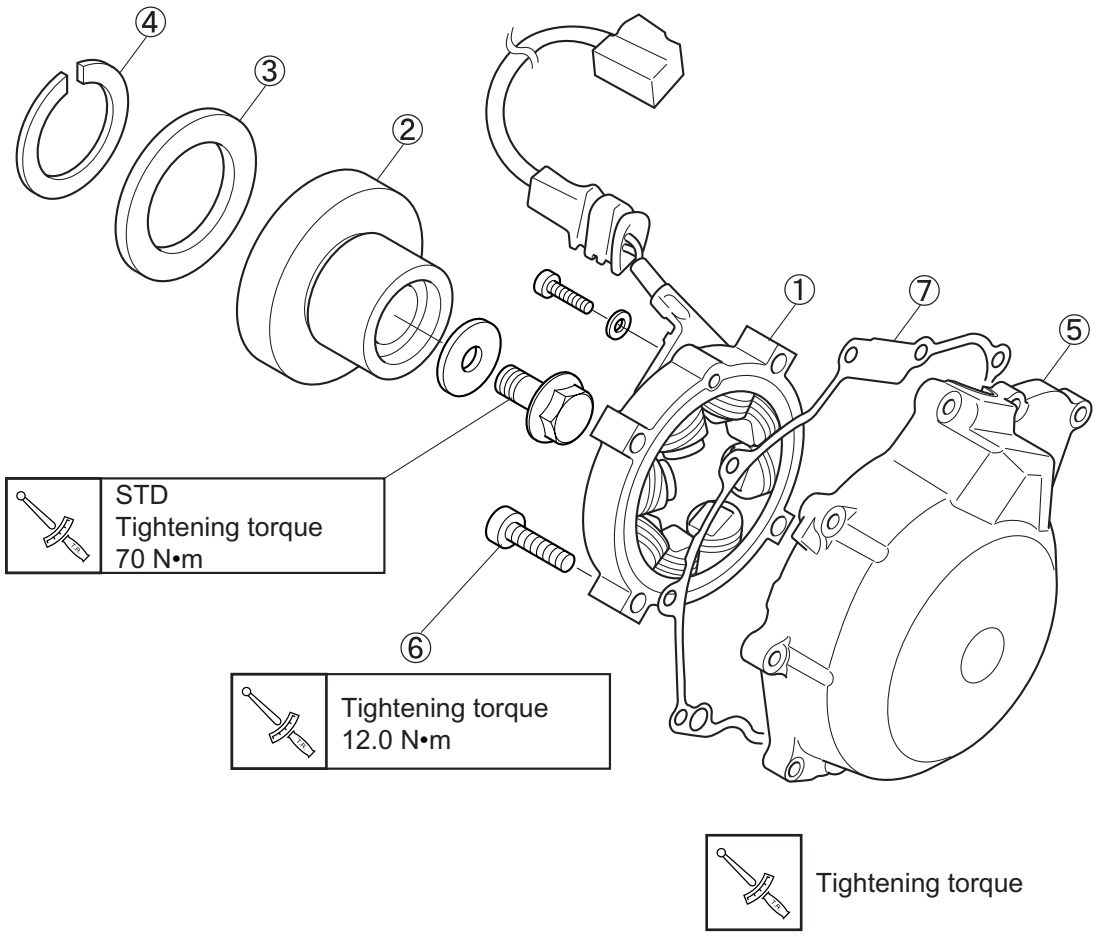
Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-81410-70	STATOR ASSY.	1	
	2	2C0-81450-70	ROTOR ASSY.	1	
*	3	2C0-15580-00	STARTER CLUTCH OUT. ASSY.	1	
*	4	2C0-15536-00	CLIP, STARTER	1	
	5	2C0-15411-71	COVER, CRANKCASE 1	1	
*	6	90149-06080	SCREW	3	
	7	2C0-15451-70	GSKT., CRANKCASE COVER 1	1	

NOTE:

Regarding Assembly

1. **Remove grease from the taper surfaces of both rotor and crank before assembling them.**
2. **Apply engine oil on the thread and flange of mounting bolts before using them.**
3. **Apply Loctite® on the bolts before assembling stator coil to the cover.**



18. Wire Harness Set (13S-F2590-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	13S-82590-70	WIRE HARNESS ASSY	1	
°	2	5FL-83976-70	SWITCH ASSY.	1	MAIN SWITCH
*	3	5GF-83976-00	SW. HANDLE 1	1	PIT ROAD LIMITER
	4	2C0-2128A-70	BRKT.,REGULATOR 1	1	
	5	2C0-82509-70	WIRE SUB-LEAD	1	
	6	4C8-82188-70	RESISTOR ASSY.	1	
*	7	90480-13003	GROMMET	2	
*	8	90560-06201	SPACER	2	
*	9	90111-06051	BOLT, HEX. SOCKET BUTTON	4	
*	10	92907-06200	WASHER, PLAIN	1	

CAUTION:

- **Do not remove the AC generator but leave it to function. Use on the battery alone will make the machine unable to run in a short time.**
- **The wire harness will not function if it is not assembled with the ECU (2C0-8591A-80) of the kit.**
- **The combination of this wire harness and ECU cannot be used with 07 models.**

- The switches (2 types) supplied in this set enable the main switch and pit road limiter to be used. (See diagram 1.)

(Diagram 1)

- The switch installed to the STD machine may be used as is. (See diagram 2.)
- Map select switches Map 1 and Map 2 of the YMS “Comp. FUEL.”

CAUTION:

When switching to Map 1 or Map 2 using “Map Select” while riding, check that proper riding is possible even when using either map.

(Diagram 2)

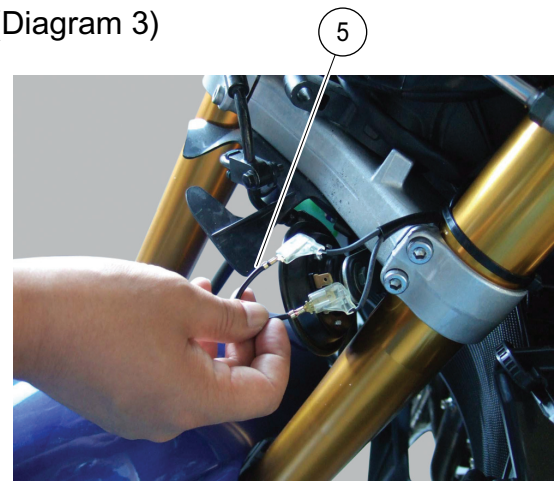
- The ignition cut switch function can be used by combining the harness and kit ECU.
  ① To use the STD switch (left side) to function as the ignition cut switch, connect the wire sub-lead that was packaged with this set to the terminal that is normally connected to the left side horn. (See diagram 3.) However, if the resistor assembly that was packaged with the set is not installed, there is the possibility that the ignition cut switch will operate incorrectly in rainy weather. The resistor assembly is installed to the 2-pin black coupler at the tail. (See diagram 4.)

CAUTION:

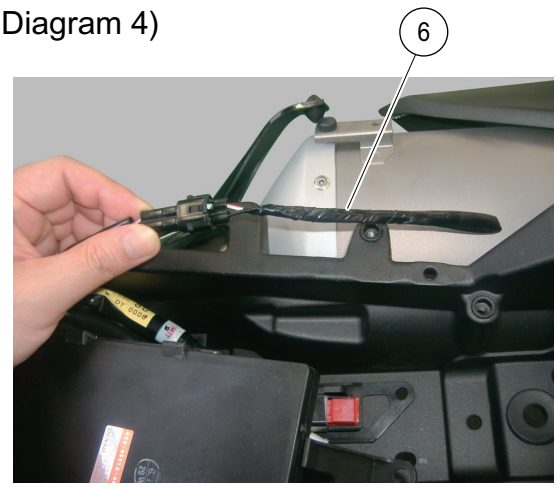
Do not bend the resistor assembly. It will cease to function if it is bent.

② Install the switch to the 2-pin black coupler underneath the fuel tank. Turning the switch ON cuts the ignition.

(Diagram 3)

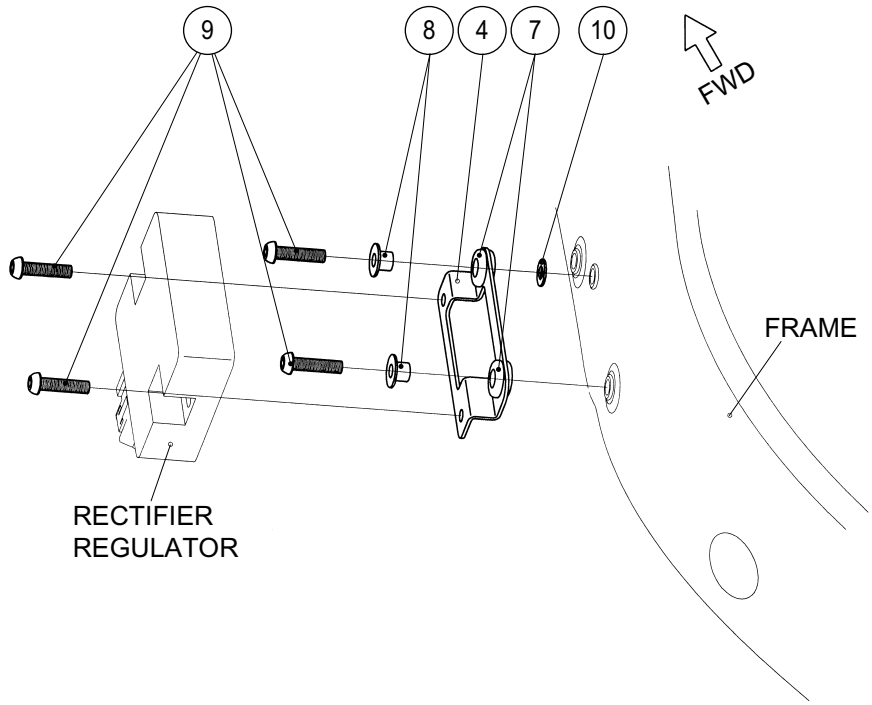


(Diagram 4)



- If the kit's large radiator is installed for the bracket regulator packaged with this set, use it when the regulator is installed to the position shown in drawing 5.

(Diagram 5)



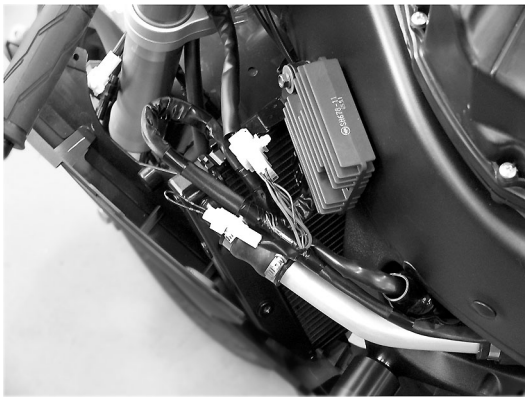
- This harness has a coupler that connects to the 2D made data logger.
  For details of the specifications of the data logger, please access the website.
  Web http://www.2d-kit-system.com/

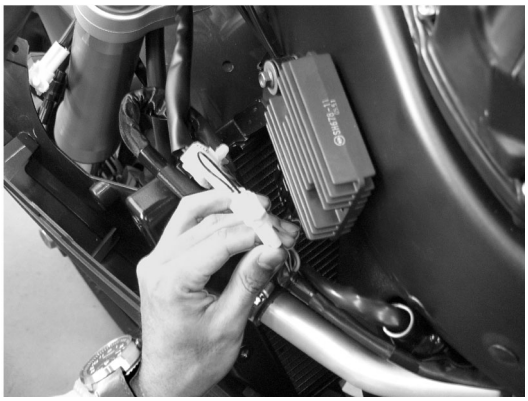
19. ECU Set (2C0-8591A-80)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-8591A-80	ECU	1	
	2	13S-2818Y-70	CD	1	YMS, MANUAL

- Use of this set and a wire harness included in the kit enables regulation (or setting) of fuel injection and ignition timing, etc.
- For details as to how to regulate (or set) fuel injection and ignition timings, etc., refer to the manual in the CD-ROM that comes with the set.
- There are two types of basic control data for the ECU included in this set: SS (Super Sports) and ST (Stock Sports). They can be switched over and vice versa. To make it in the ST specification, just remove two couplers located at the lower left of the kit harness fuel tank. (See the figure below.)
  <Setting-up Details>
  SS specification: Kit cam shaft and *Recommended muffler
  ST specification: *Recommended muffler
  * Recommended muffler
    Made by Akrapovic (For details of the specification, please access the website.)
    Web http://www.akrapovic-exhaust.com





CAUTION:

- **The ECU of this set will not function if it is not assembled with the wire harness (13S-82590-70) of the kit.**
- **Do not use the ECU of this set for any other assembly than the one below.**

	ECU	WIRE HARNESS ASSY.	THROTTLE BODY ASSY.
2006 Models	2C0-8591A-70	2C0-82590-70	2C0-13750-00
2007 Models	2C0-8591A-71	2C0-82590-80	2C0-13750-00
2008 Models	2C0-8591A-80	13S-82590-70	13S-13750-00

20. Cable Interface (13S-8533A-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	13S-8533A-70	CABLE, INTERFACE	1	USB
	2	13S-N81CD-70	8cm CD	1	USB driver

- This cable connects the kit wire harness to the personal computer on which YEC FI Matching System (YMS) is installed.
- Please see the YMS manual for instructions on how to use YMS.
- When connecting the cable to the PC for the first time, it is necessary to install the USB driver. Refer to the USB Driver Installation Manual provided on the 8 cm CD for details on how to install the USB driver.
- The product vendor ID and product ID are provided by the Hamamatsu TOA Electronics, Inc.
  Vendor ID: 6837
  Product ID: 9001

- Use of the ECU in the kit and the harness allows functioning of the following codes in the STD diagnosis.

  * YMS-Monitor: YEC FI Matching System also allows functioning of the code shown below.

<Diagnosis Functions>

CODE	Contents	*YMS-Monitor
01	Throttle sensor	TPS 1(deg)
02	Atmospheric pressure sensor	Atmospheric (kPa)
03	Intake pressure sensor 1	Intake Air (kPa)
05	Intake temperature sensor	Air Temp. (°C)
06	Water temperature sensor	Water Temp. (°C)
07	Vehicle speed sensor	Speed Signal (--)
08	Overturn sensor	Lean Angle Signal (V)
09	Monitor voltage	System Voltage (V)
13	Throttle sensor 2	TPS 2 (deg)
14	Accelerator sensor 1	APS 1 (deg)
15	Accelerator sensor 2	APS 2 (deg)
21	Neutral switch	Neutral SW
30	Ignition coil #1	—
31	Ignition coil #2	—
32	Ignition coil #3	—
33	Ignition coil #4	—
36	Injector (primary) #1	—
37	Injector (primary) #2	—
38	Injector (primary) #3	—
39	Injector (primary) #4	—
40	Injector (secondary) #1	—
41	Injector (secondary) #2	—
42	Injector (secondary) #3	—
43	Injector (secondary) #4	—
46	Intake funnel	—
50	Main relay	—
70	Program version	—

Self-Diagnosis Functions

- The ECU and harness in the kit provide the functions for the following codes of standard self-diagnosis:

CODE	Description
00	All functions normally.
11	Cam angle sensor malfunctions.
12	Crank angle sensor malfunctions.
13	Intake pressure sensor malfunctions (open circuit / short circuit).
14	Intake pressure sensor malfunctions (piping system).
15	Throttle opening sensor malfunctions (open circuit / short circuit / ETV).
20	Intake pressure sensor or atmospheric pressure sensor malfunctions.
21	Water temperature sensor malfunctions (open circuit / short circuit).
22	Intake temperature sensor malfunctions (open circuit / short circuit).
23	Atmospheric pressure sensor malfunctions (open circuit / short circuit).
33	Ignition coil #1 malfunctions (open circuit).
34	Ignition coil #2 malfunctions (open circuit).
35	Ignition coil #3 malfunctions (open circuit).
36	Ignition coil #4 malfunctions (open circuit).
39	Injector (primary) malfunctions (open circuit).
40	Injector (secondary) malfunctions (open circuit).
43	Battery voltage monitor malfunctions (power source for fuel system).
46	Power source for vehicle malfunctions.
59	Accelerator opening sensor malfunctions (open circuit / short circuit).
60	Throttle motor malfunctions (drive system).

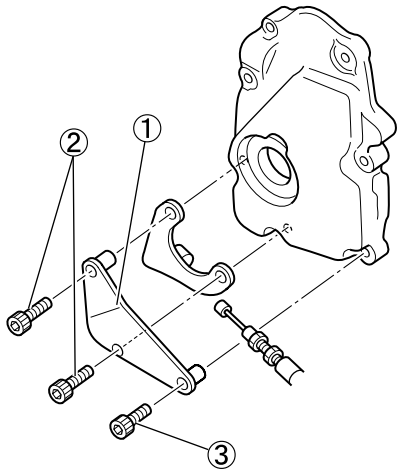
2-2 Vehicle Accessories

21. Engine Protector Set (2C0-A5491-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-15491-70	PROTECTOR	1	
*	2	91314-06025	BOLT, HEX. SOCKET HEAD	2	
*	3	91314-06020	BOLT, HEX. SOCKET HEAD	1	

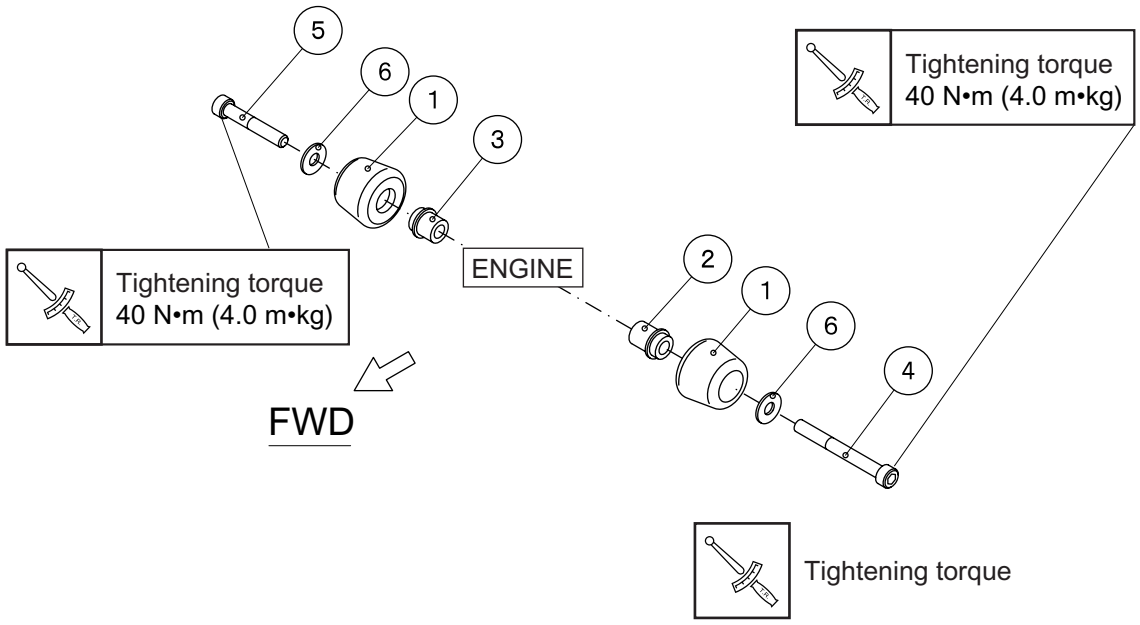
These parts protect the chassis as well as alleviating damage caused by overturning.

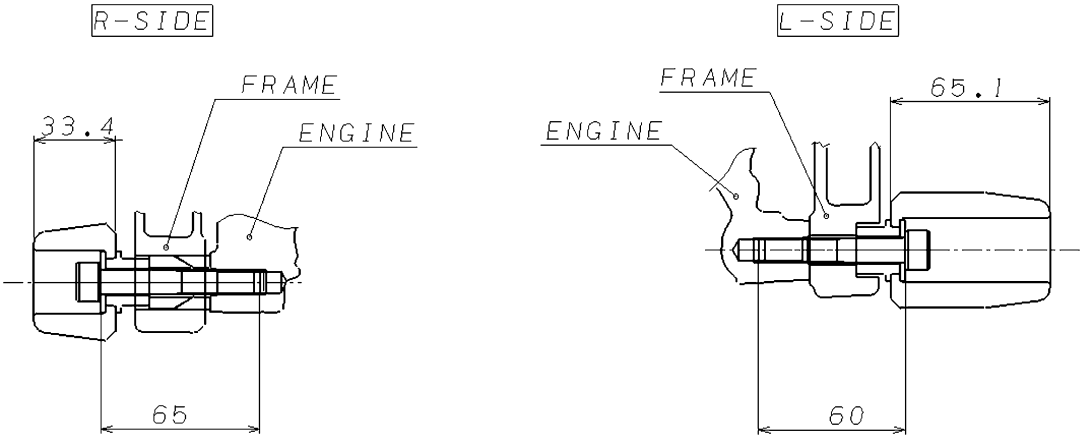


22. Chassis Protector Set (2C0-C117G-70)

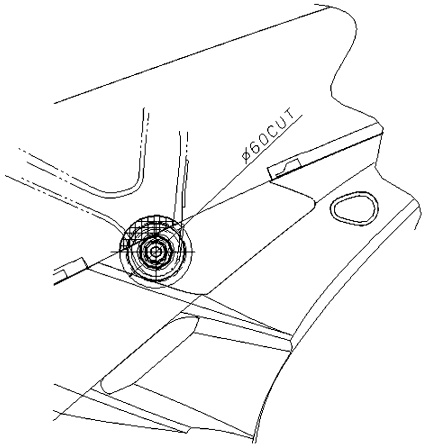
Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-2117G-70	PROTECTOR(LH LONG)	1	
	2	2C0-2117G-90	PROTECTOR(RH SHORT)	1	
	3	2C0-21472-70	COLLAR, PROTECTOR	2	
*	4	91317-10060	BOLT, HEX. SOCKET HEAD	1	
	5	91314-10065	BOLT, HEX. SOCKET HEAD	1	
*	6	90201-10136	WASHER, PLAIN	2	

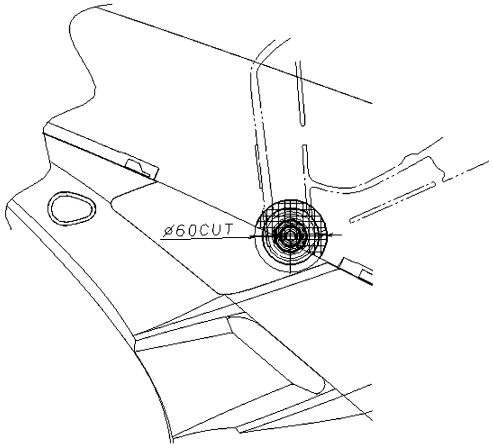




Before mounting the protector, cut the cowling so that the protector can fit against the chassis. As a rough guide, cut by ϕ60 centered on the engine mount. See the figures below.



R-SIDE



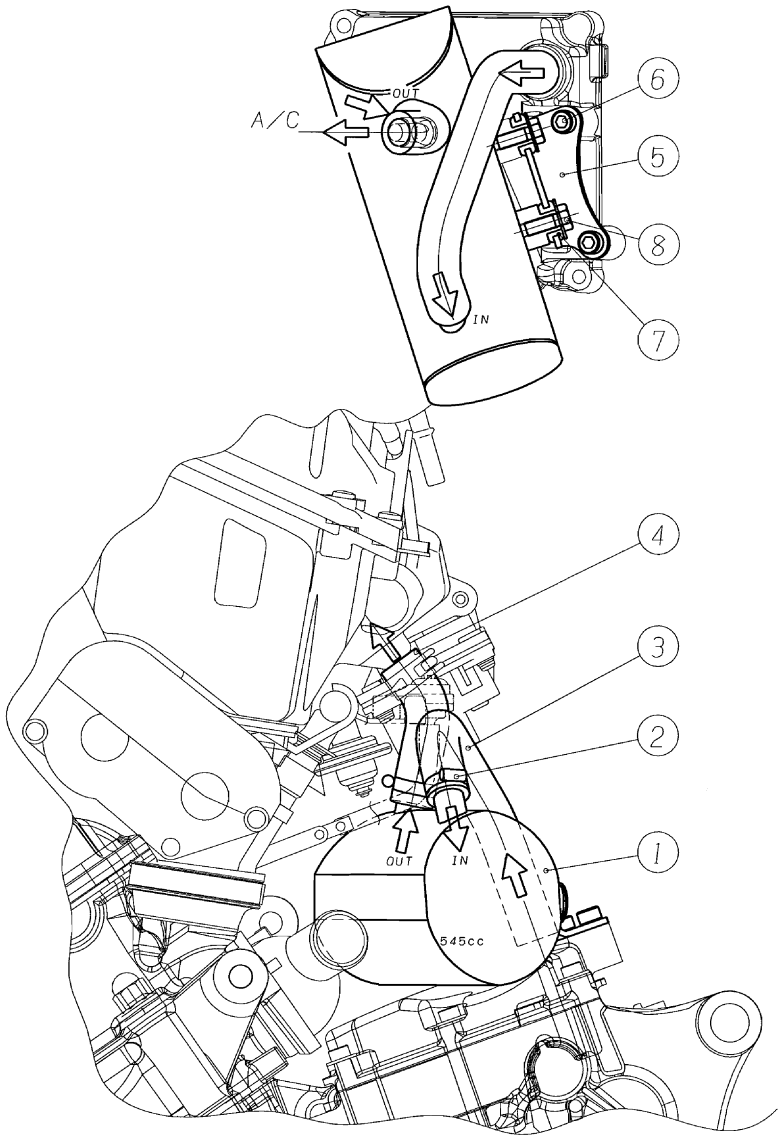
L-SIDE

23. Oil Catch Tank Set (2C0-C1707-80)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-21707-70	OIL TANK COMP.	1	
*	2	90450-25037	HOSE CLAMP ASSY.	3	
	3	13S-15373-70	PIPE, BREATHER	1	
	4	2C0-15393-70	PIPE, BREATHER 2	1	
*	5	2C0-2419F-00	BRKT.	1	
*	6	91317-06020	BOLT, HEX.SOCKET HEAD	2	
*	7	90480-13018	GROMMET	2	
*	8	90119-06044	BOLT, HEX. W/WASHER	2	

This oil tank has the effective capacity of 540 cc.



24. Front Fork Spring Set

Parts List (13S-C3151-70)

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	13S-23141-70	SPRG., 1	2	8.5 N/mm (0.87 kgf/mm) Identification line (1 line)
*	2	13S-23142-00	SEAT, SPRING UPR.	2	
	3	13S-23118-70	SPACER	2	

Parts List (13S-C3151-75)

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	13S-23141-75	SPRG., 1	2	9.5 N/mm (0.97 kgf/mm) Identification line (2 lines)
*	2	13S-23142-00	SEAT, SPRING UPR.	2	
	3	13S-23118-70	SPACER	2	

Parts List (13S-C3151-80)

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	13S-23141-80	SPRG., 1	2	10.0 N/mm (1.02 kgf/mm) Identification line (3 lines)
*	2	13S-23142-00	SEAT, SPRING UPR.	2	
	3	13S-23118-70	SPACER	2	

Parts List (13S-C3151-85)

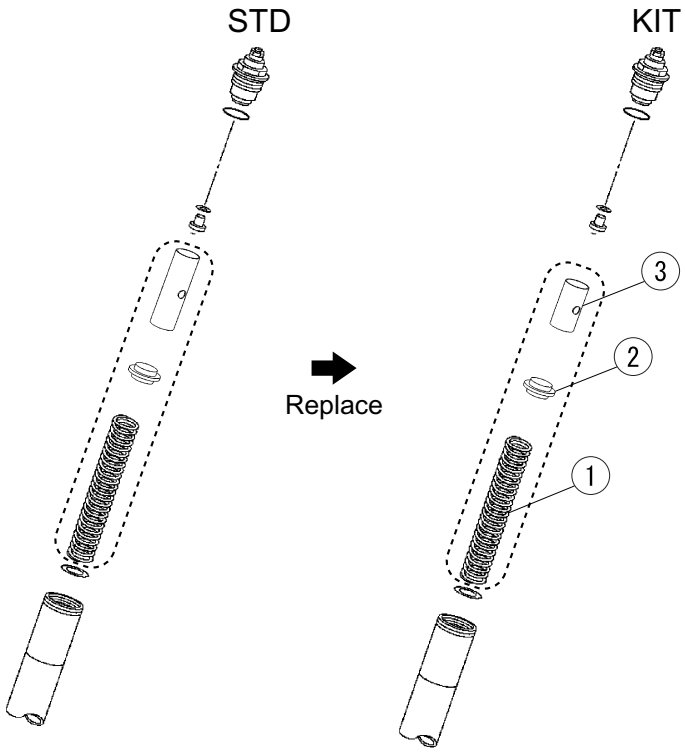
	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	13S-23141-85	SPRG., 1	2	10.5 N/mm (1.07 kgf/mm) Identification line (4 lines)
*	2	13S-23142-00	SEAT, SPRING UPR.	2	
	3	13S-23118-70	SPACER	2	

Standard Setting (Standard front fork + Kit spring)

	Specifications
Initial height of adjuster	9.5mm
Oil level	103mm
Suspension oil	Yamaha Suspension Oil 01
Click position	Stretching direction: Make 20 notches backward from the fully stretched position Pushing direction: Low speed side: Make 15 notches backward from the fully stretched position High speed side: Make two turns back from the fully stretched position

NOTE:

- **Please build in the spacer and the spring seat of the attachment detaching the STD spacer when the kit spring is set up.**
- **The spring rate is identified by the number of lines on its end.**

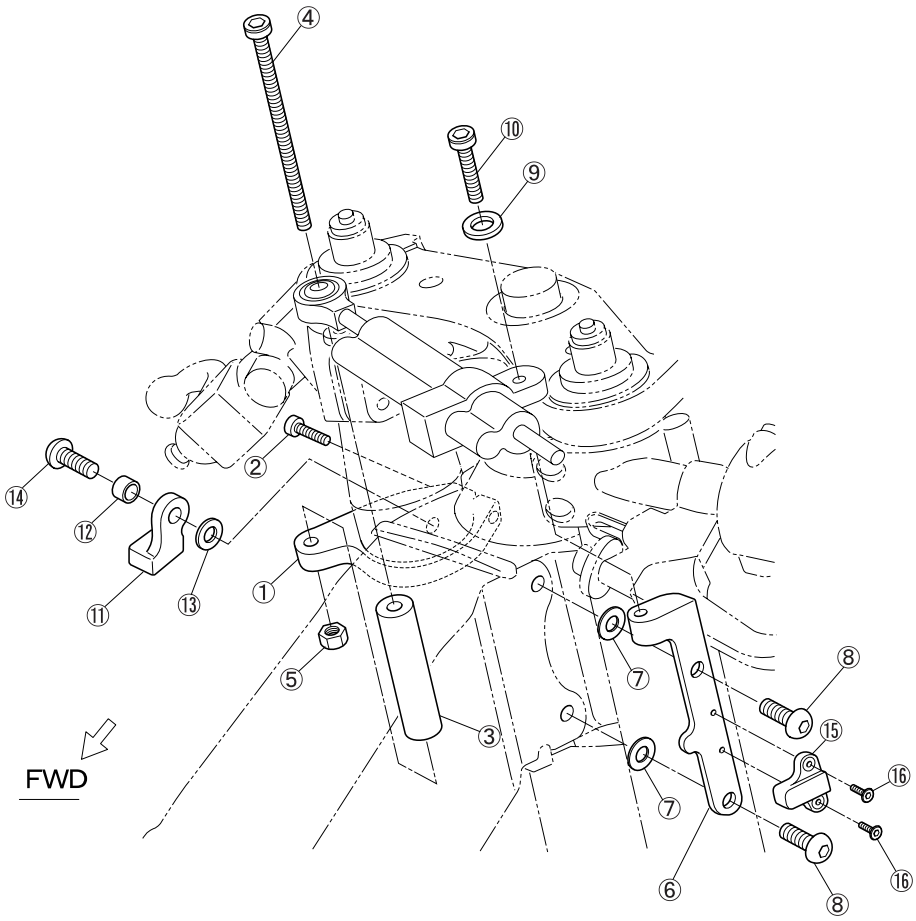


25. Steering Damper Stay Set (2C0-C3495-80)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	2C0-23495-80	STAY, DAMPER	1	
*	2	91317-06025	BOLT, HEX. SOCKET HEAD	1	
	3	2C0-23488-80	SPACER	1	
*	4	91317-08110	BOLT, HEX. SOCKET HEAD	1	
	5	95607-08100	NUT, U	1	
	6	2C0-2349T-80	BRKT., DAMPER	1	
*	7	90201-07081	WASHER, PLAIN	2	
*	8	90149-06302	SCREW	2	
	9	5VY-26398-00	WASHER, SPECIAL	1	
*	10	91317-08025	BOLT, HEX. SOCKET HEAD	1	
	11	2C0-23439-71	STOPPER, STRG. 2	1	
	12	90387-06084	COLLAR	1	
*	13	90201-07081	WASHER, PLAIN	1	
*	14	90149-06302	SCREW	1	
	15	2C0-23429-70	STOPPER	1	
*	16	90151-04002	SCREW, CROSSRECESSED COUNTERSUNK	2	

For the steering damper, use [OHLINS SD121 STROKE 68mm].



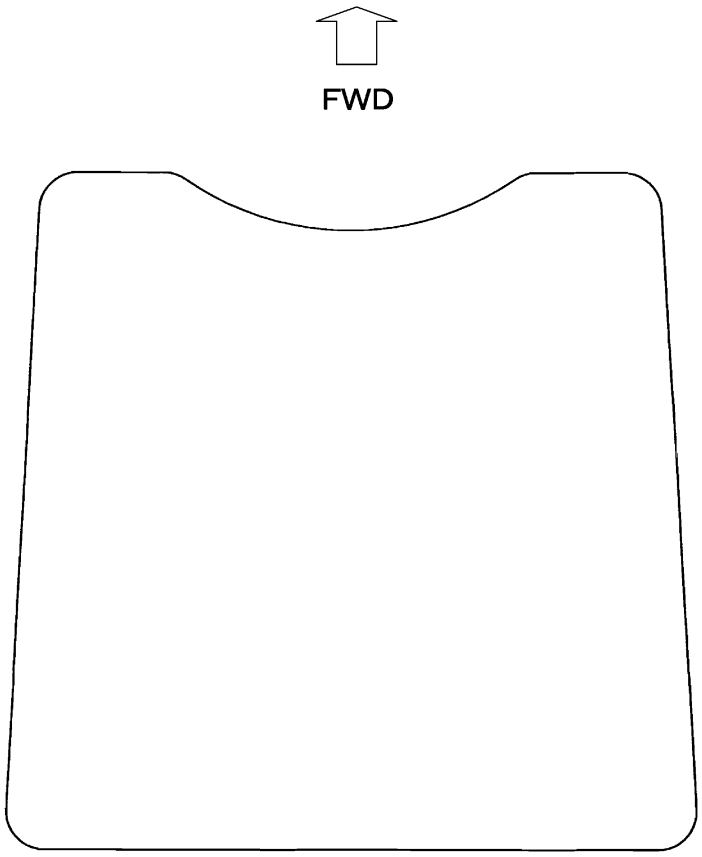
26. Seat Cushion (13S-24713-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
	1	13S-24713-70	CUSHION SEAT	1	

Anti slip seat.

Cut to any size for use.

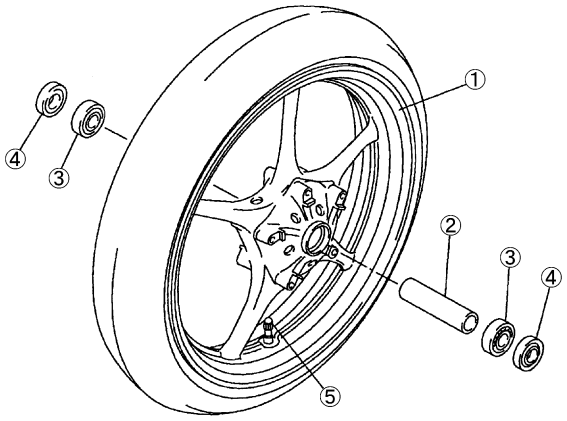


27. Front Spare Wheel Assembly (2C0-25100-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
*	1	5SL-25168-00	WHEEL, CAST	1	MAT BLACK
*	2	4XV-25117-00	SPACER, BEARING	1	
*	3	93306-07208	BEARING	2	
*	4	93106-28043	SEAL, OIL	2	
*	5	93900-00030	VALVE, RIM	1	

This part is an assembly of bearings, spacers and an air valve in a STD wheel.

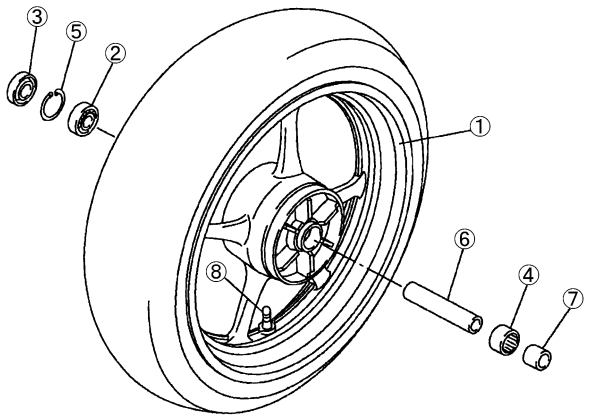


28. Rear Spare Wheel Assembly (2C0-25300-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
*	1	5SL-25338-00	WHEEL, CAST	1	MAT BLACK
*	2	93306-20531	BEARING	1	
*	3	93106-40013	SEAL, OIL	1	
*	4	93317-43580	BEARING	1	
*	5	93420-61M07	CIRCLIP	1	
*	6	4XV-25317-00	SPACER, BEARING	1	
*	7	5SL-25383-00	COLLAR, WHEEL SHAFT	1	
*	8	93900-00030	VALVE, RIM	1	

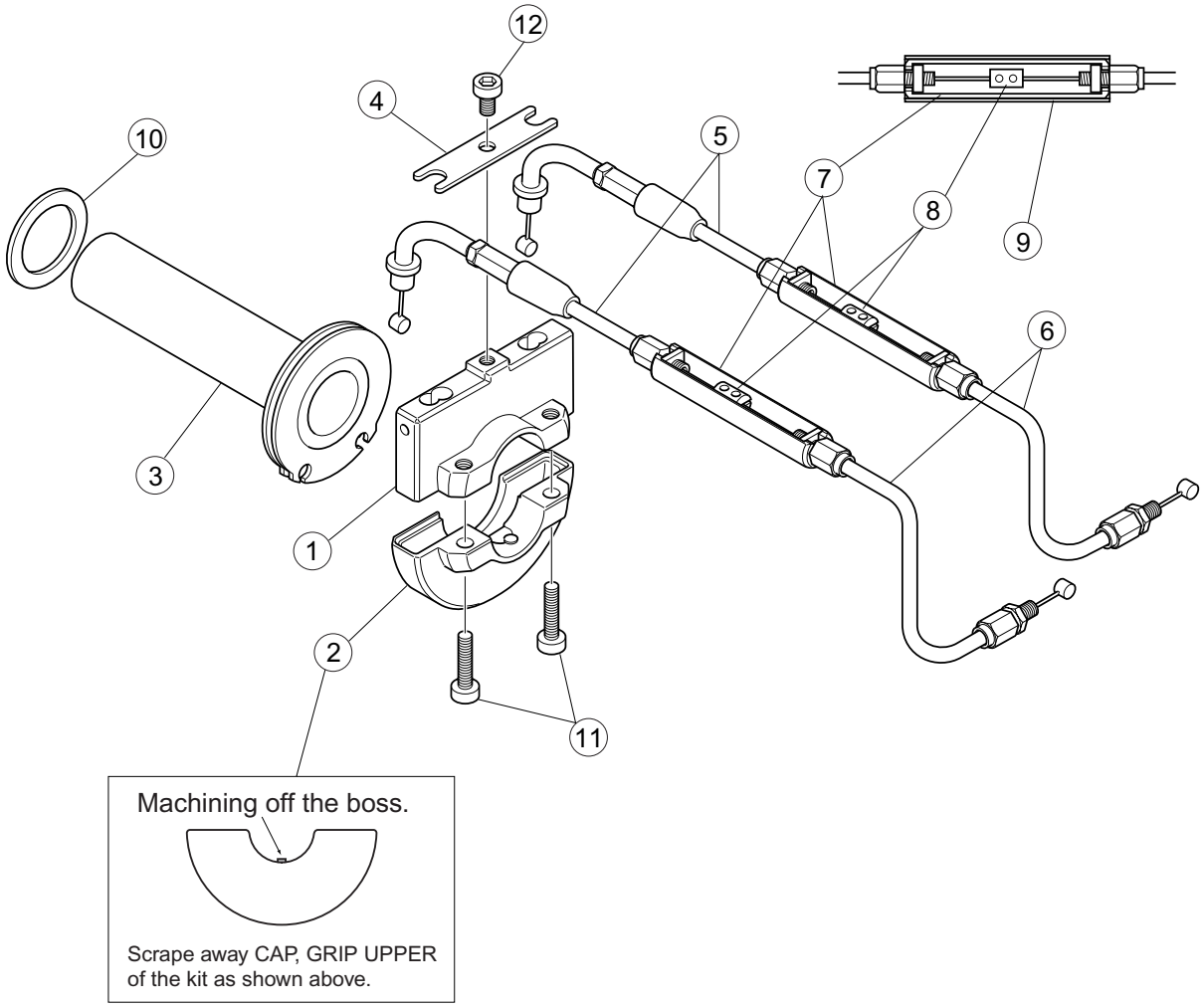
This part is an assembly of bearings, spacers and an air valve in a STD wheel.



29. Throttle Set (2C0-C6300-70)

Parts List

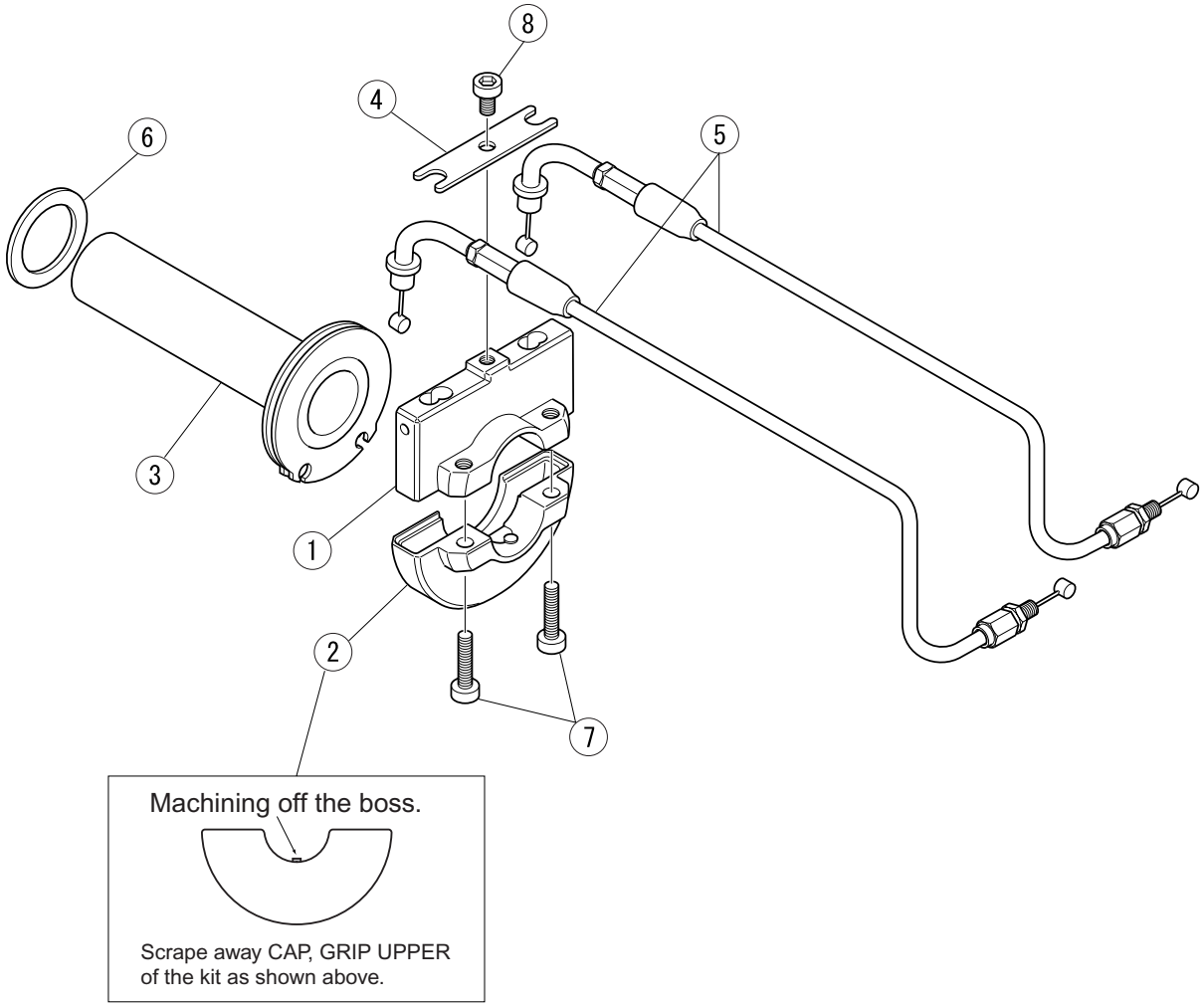
	No.	PART No.	PART NAME	Q'TY	REMARKS
°	1	2C0-26281-70	CAP, GRIP UPPER	1	
*	2	5FL-26282-00	CAP, GRIP UNDER	1	
°	3	5SL-26243-71	TUBE, GUIDE	1	
°	4	2C0-26391-70	CLIP, WIRE 1	1	
°	5	2C0-26311-70	WIRE, THROTTLE 1	2	Grip side: Retracting sharing
°	6	2C0-26313-70	WIRE, THROTTLE 3	2	Engine side: Retracting sharing
°	7	2C0-26261-70	CYLINDER	2	
°	8	5FL-26244-70	SLIDER	2	
	9	2C0-2639E-70	PROTECTOR	2	
*	10	90201-261L1	WASHER, PLAIN	1	
*	11	91314-05020	BOLT, HEX. SOCKET HEAD	2	
*	12	91314-05008	BOLT, HEX. SOCKET HEAD	1	



30. Throttle Set (13S-C6300-70)

Parts List

	No.	PART No.	PART NAME	Q'TY	REMARKS
°	1	2C0-26281-70	CAP, GRIP UPPER	1	
*	2	5FL-26282-00	CAP, GRIP UNDER	1	
°	3	5SL-26243-71	TUBE, GUIDE	1	
°	4	2C0-26391-70	CLIP, WIRE 1	1	
°	5	13S-26302-70	THROTTLE WIRE ASSY.	2	Common use for pulling back.
*	6	90201-261L1	WASHER, PLAIN	1	
*	7	91314-05020	BOLT, HEX. SOCKET HEAD	2	
*	8	91314-05008	BOLT, HEX. SOCKET HEAD	1	



3 Tightening Torque List

Engine

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
CAP, CAMSHAFT x HEAD	90105-06027	BOLT, FLANGE	M6 x 1.0	10.0±2 (1.0±0.2)	20	CAM SHAFT SHALL TURN LIGHTLY.
Embedded in HEAD	95612-08625	BOLT, STUD	M8 x 1.25	15.0±2 (1.5±0.2)	8	
Tighten HEAD.	90179-10006	NUT	M10 x 1.25	TURN-OF-NUT METHOD AXIAL FORCE 41kN±2kN SNUG TORQUE 28(2.8) +ROTATION ANGLE 55°	10	APPLY OIL BOTH TO THREAD AND BEARING SURFACE. SEE page 55 FOR DETAILS.
Tighten HEAD.	90176-10075	NUT, CAP	M10 x 1.25	TURN-OF-NUT METHOD AXIAL FORCE 41kN±2kN SNUG TORQUE 36(3.6) +ROTATION ANGLE 55°	2	APPLY OIL BOTH TO THREAD AND BEARING SURFACE. SEE page 55 FOR DETAILS.
Tighten HEAD on side of CAM CHAIN compartment.	90110-06094	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	12.0±2 (1.2±0.2)	2	WITH WASHER
SPARK PLUG	5FL-94700-70	PLUG, SPARK	M10S x 1.0	10 – 12 (1.0 – 1.2)	4	SEE page 3 FOR DETAILS.
HEAD COVER x HEAD	90109-066F0	BOLT	M6 x 1.0	12.0±2 (1.2±0.2)	6	
Plug for sand drain hole	90340-18002	PLUG, STRAIGHT SCREW	M18 x 1.5	42±4 (4.3±0.4)	3	APPLY LOCKING AGENT (LOCKTITE®).
Check bolt for oil passage	95022-08012	BOLT, FLANGE, SMALL HEAD	M8 x 1.25	15.0±2 (1.5±0.2)	1	
Tighten AI CAP.	90110-06175	BOLT HEXAGON SOCKET HEAD	M6 x 1.0	10.0±2 (1.0±0.2)	4	
CAMSHAFT x SPROCKET	90105-07004	BOLT, FLANGE	M7 x 1.0	24.0±2 (2.4±0.2)	4	
JOINT, CARBURETOR 1 x HEAD	91312-06016	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	10.0±2 (1.0±0.2)	8	

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
CON ROD X CAP, CON ROD	2C0-11654-00	BOLT, CON ROD	M7 x 0.75		8	APPLY SUMICO MORI ASSY OIL 150.
	2C0-1165A-00	BOLT, CON ROD	M7 x 0.75		8	APPLY SUMICO MORI ASSY OIL 150.
	90179-07001	NUT	M7 x 0.75	14.7±1.47 (1.5±0.15) +180°±5°	8	APPLY SUMICO MORI ASSY OIL 150.
ACM ROTOR x CRANKSHAFT	90105-126A8	BOLT, FLANGE	M12 x 1.25	70±5 (7.0±0.5)	1	DEGREASE TAPERED SURFACE. APPLY OIL BOTH TO BOLT BEARING SURFACE AND THREAD AND TO BOTH SIDES OF WASHER. USE MORI-COATED WASHER.
TENSIONER ASSY x CYLINDER	90110-06106	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	12.0±2 (1.2±0.2)	2	INSTALL TENSIONER ASSY.
Install COVER, THERMOSTAT.	91312-06020	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	12.0±2 (1.2±0.2)	2	
Install JOINT.	90105-06082	BOLT, FLANGE, SMALL HEAD	M6 x 1.0	10.0±2 (1.0±0.2)	2	
Install WATER PUMP.	90110-06140	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	12.0±2 (1.2±0.2)	2	
OIL PUMP ASSY x CRANKCASE 2	95812-06030	BOLT, FLANGE	M6 x 1.0	12.0±2 (1.2±0.2)	2	
OIL PUMP ASSY x CRANKCASE 2	95812-06080	BOLT, FLANGE	M6 x 1.0	12.0±2 (1.2±0.2)	1	
COVER, STRAINER x CRANKCASE 2	90109-06015	BOLT	M6 x 1.0	12.0±2 (1.2±0.2)	13	
DRAIN BOLT for COVER, STRAINER	90340-14132	PLUG, STRAIGHT SCREW	M14 x 1.5	43.0±4 (4.3±0.4)	1	DRAIN BOLT

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
Tighten UNION BOLT for FILTER.	90401-20145	BOLT, UNION	M20 x 1.5	70.0±5 (7.0±0.5)	1	
ELEMENT, OIL FILTER	5GH-13440-20	OIL CLEANER ASSY	M20 x 1.5	17.0±2 (1.7±0.2)	1	APPLY GREASE TO O-RING.
HOLDER x CRANKCASE 2	90110-06161	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	12.0±2 (1.2±0.2)	2	
PIPE, OIL x CRANKCASE 2	90110-06161	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	12.0±2 (1.2±0.2)	2	
OIL COOLER x CARNKCASE 2	5EB-12822-00	BOLT, UNION	M20 x 1.5	63.0±3 (6.3±0.3)	1	APPLY OIL TO THREAD AND BEARING SUR-FACE.
UPPER CASE x CAP CASE ASSY	92012-06020	BOLT, BUTTON HEAD	M6 x 1.0	5.0±0.5 (0.5±0.05)	4	
UPPER CASE x LOWER CASE	98902-05020	SCREW, CROSS RECESS BINDING	M5 x 0.8	2.0±0.5 (0.2±0.05)	10	
ELEMENT x UPPER CASE	98902-05020	SCREW, CROSS RECESS BINDING	M5 x 0.8	2.0±0.5 (0.2±0.05)	1	
JOINT, CARBURETOR 1 x THROTTLE	90450-56007	HOSE CLAMP ASSY	M5 x 0.8	2.0 – 2.5 (0.2 – 0.25)	4	CONTACT-FIT COLLAR OR TORQUE CON-TROL
THROTTLE x FUNNEL	90109-05011	BOLT	M5 x 0.8	3.4 – 5 (0.34 – 0.5)	6	
LOWER FILTER CASE x FUNNEL (SUPPORT UNIT)	90159-05035	SCREW, WITH WASHER	M5 x 0.8	2.5±0.5 (0.25±0.05)	2	
Install THROTTLE WIRE	13S-26302-00	THROT-TLE WIRE ASSY.	M6 x 1.0	3.5 – 5.5 (0.35 – 0.55)	2	
NUT, RING x HEAD	90179-08410	NUT	M8 x 1.25	20.0±2 (2.0±0.2)	8	TIGHTEN EXHAUST PIPE & HEAD.

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
STAY, MUFFLER 1, 2 x MUFFLER	91314-08035	BOLT, HEXAGON SOCKET HEAD	M8 x 1.25	20.0±2 (2.0±0.2)	2	INSTALL EXHAUST PIPE.
STAY, MUFFLER 2 x BRACKET, MUFFLER 1	90105-08054	BOLT, FLANGE (SMALL HEAD)	M8 x 1.25	34.0±4 (3.4±0.4)	1	INSTALL DAMPER.
Tighten BAND, MUFFLER.	91314-06030	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	10.0±2 (1.0±0.2)	1	
SILENCER x FOOT REST	90105-08063	BOLT, FLANGE	M8 x 1.25	20.0±2 (2.0±0.2)	1	
Install WIRE PULLEY.	13S-1133E-00 13S-1133F-00	WIRE, PULLEY, 1 WIRE, PULLEY, 2	M6 x 1.0	5 – 7 (0.5 – 0.7)	1 1	
PULLEY x GEARED MOTOR	90110-05028	BOLT, HEXAGON SOCKET HEAD	M5 x 0.8	6.5±1.5 (0.65±0.15)	1	
BRACKET 7 x FRAME	95827-06014	BOLT, FLANGE (SMALL HEAD)	M6 x 1.0	6 – 10 (0.6 – 1.0)	2	
BRACKET 7 x SERVOMOTOR	95027-06025	BOLT, FLANGE (SMALL HEAD)	M6 x 1.0	5 – 8 (0.5 – 0.8)	2	
Install MUFFLER PROTECTOR.	90111-06071	BOLT, HEXAGON SOCKET BUTTON	M6 x 1.0	8.0±1.5 (0.8±0.15)	1	
Install MUFFLER PROTECTOR.	90111-06099	BOLT, HEXAGON SOCKET BUTTON	M6 x 1.0	6.5±1.5 (0.65±0.15)	2	
EXHAUST VALVE SUBASSY	90179-06063	NUT	M6 x 1.0	6.5±1.5 (0.65±0.15)	1	
CRANKCASE 1 x CRANKCASE 2	90119-08083	BOLT, HEXAGON WITH WASHER	M8 x 1.25	See page 56 for details.	8	APPLY OIL BOTH TO THREAD AND TO BEARING SURFACE.
CRANKCASE 1 x CRANKCASE 2	90119-08084	BOLT, HEXAGON WITH WASHER	M8 x 1.25	See page 56 for details.	2	APPLY OIL BOTH TO THREAD AND TO BEARING SURFACE.

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
CRANKCASE 1 x CRANKCASE 2	90109-06100	BOLT	M6 x 1.0	10.0±2 (1.0±0.2)	2	APPLY OIL BOTH TO THREAD AND TO BEARING SURFACE.
CRANKCASE 1 x CRANKCASE 2	95812-06055	BOLT, FLANGE	M6 x 1.0	10.0±2 (1.0±0.2)	7	APPLY OIL BOTH TO THREAD AND TO BEARING SURFACE.
CRANKCASE 1 x CRANKCASE 2	95812-08065	BOLT, FLANGE	M8 x 1.25	24±2 (2.4±0.2)	2	APPLY OIL BOTH TO THREAD AND TO BEARING SURFACE.
CRANKCASE 1 x CRANKCASE 2	95812-06065	BOLT, FLANGE	M6 x 1.0	10.0±2 (1.0±0.2)	3	APPLY OIL BOTH TO THREAD AND TO BEARING SURFACE.
CRANKCASE 1 x CRANKCASE 2	95812-06045	BOLT, FLANGE	M6 x 1.0	10.0±2 (1.0±0.2)	3	APPLY OIL BOTH TO THREAD AND TO BEARING SURFACE.
CRANKCASE 1 x CRANKCASE 2	95812-06030	BOLT, FLANGE	M6 x 1.0	10.0±2 (1.0±0.2)	1	APPLY OIL BOTH TO THREAD AND TO BEARING SURFACE.
Install COVER, CRANKCASE 1.	90109-06015	BOLT	M6 x 1.0	12.0±2 (1.2±0.2)	9	
Install COVER, CRANKCASE 2.	90109-06031	BOLT	M6 x 1.0	12.0±2 (1.2±0.2)	7	
Install COVER, CRANKCASE 2.	90110-06156	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	12.0±2 (1.2±0.2)	2	
Install COVER 1.	90110-06303	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	12.0±2 (1.2±0.2)	5	
COVER 1 x HOLDER, CLUTCH	90109-06015	BOLT	M6 x 1.0	12.0±2 (1.2±0.2)	2	
COVER 1 x BOLT	92014-08014	BOLT, BUTTON HEAD	M8 x 1.25	15.0±2 (1.5±0.2)	1	
COVER 1 x PLUG, STRAIGHT	90340-32004	PLUG, STRAIGHT SCREW	M32 x 1.5	CLOSE CON-TACT WITH BEARING SUR-FACE	1	

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
PLATE, BREATHER x C/ C1	90149-06082	SCREW	M6 x 1.0	12.0±2 (1.2±0.2)	3	
COVER, CRANKCASE 1 x STATOR ASSY	90149-06080	SCREW	M6 x 1.0	10.0±2 (1.0±0.2)	3	
PLUG WITH COMMUNICATION HOLE x CRANKCASE 1	90149-06082	SCREW	M6 x 1.0	12.0±2 (1.2±0.2)	1	
Install COVER, CHAIN CASE.	90110-06060	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	10.0±2 (1.0±0.2)	3	
Install M GALLERY PLUG.	36Y-15189-00	PLUG	M16 x 1.5	8.0±2 (0.8±0.2)	2	TAKE CARE NOT TO OVER-TIGHTEN
COVER, CRANKCASE 1 x CLAMP	90149-06082	SCREW	M6 x 1.0	10.0±2 (1.0±0.2)	1	STATOR LEAD
Install COVER.	90109-06015	BOLT	M6 x 1.0	12.0±2 (1.2±0.2)	5	
Install OIL PIPE (OUTSIDE)	90110-06161	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	12.0±2 (1.2±0.2)	2	
CRANKCASE 2 x PICKUP	90110-06168	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	10.0±2 (1.0±0.2)	2	
Embedded in CRANKCASE x STUD, EMBEDDED	90116-1002*	BOLT, STUD	M10 x 1.25	(HEIGHT 68.2±1)	10	
Install PRESSURE PLATE.	90159-06024	SCREW, W/W	M6 x 1.0	8.0±2 (0.8±0.2)	6	
BOSS, CLUTCH x MAIN AXLE	4B1-16377-70	NUT, LOCK	M20 x 1.0	115.0±5 (11.5±0.5)	1	CRIMP AND APPLY OIL BOTH TO THREAD AND BEARING SUR-FACE.

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
BOSS, PRESSURE PLATE x BOLT, STUD	2C0-16374-00	BOLT, STUD	M8 x 1.25	25.0±2 (2.5±0.2)	6	
Install SPROCKET, DRIVE.	90179-20005	NUT	M20 x 1.0	85.0±5 (8.5±0.5)	1	NO OIL SHALL BE STUCK. CRIMP.
HOUSING, BEARING	90151-06024	SCREW, CROSS-RECESSED COUNTER-SUNK	M6 x 1.0	12.0±2 (1.2±0.2)	3	CRIMP.
Install STOPPER, SHAFT BAR.	90110-06182	BOLT, HEXAGON	M6 x 1.0	10.0±2 (1.0±0.2)	2	
STOPPER embedded in CRANKCASE	1D7-18127-00	STOPPER, SCREW	M8 x 1.25	22.0±2 (2.2±0.2)	1	
Install ARM, SHIFT.	95822-06020	BOLT, FLANGE	M6 x 1.0	10.0±2 (1.0±0.2)	1	CHECK FOR SERRATION TIGHTENING UP.
Install ROTOR, PICKUP.	90105-08113	BOLT, FLANGE	M8 x 1.25	35.0±5 (3.5±0.5)	1	
Install STARTER MOTOR.	90105-06083	BOLT, FLANGE (SMALL HEAD)	M6 x 1.0	10.0±2 (1.0±0.2)	2	
NEUTRAL SWITCH ASSY	3GB-82540-01	NEUTRAL S/W ASSY	M10 x 1.25	19.6±2 (2.0±0.2)	1	OVERTIGHTEN-ING LEADS TO DAMAGE.
Install OIL LEVEL SENSOR.	95022-06016	BOLT, FLANGE (SMALL HEAD)	M6 x 1.0	10.0±2 (1.0±0.2)	2	APPLY GREASE TO O-RING.
SPEED SENSOR x C/C	91312-06016	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	10.0±2 (1.0±0.2)	1	
CAM SENSOR x COVER H/C	90110-06175	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	7.5±1.5 (0.75±0.15)	1	
WIRE HARNESS (NEGATIVE LEAD WIRE)	91380-06012	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	10.0±2 (1.0±0.2)	1	

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
Install O2 SENSOR.	13S-8592A-00	O2 SEN-SOR	M18 x 1.5	45.0±5 (4.5±0.5)	1	
Install THERMOSENSOR.	8CC-85790-01	THERMO-SENSOR ASSY	M12 x 1.5	17.6±2 (1.8±0.2)	1	

Body

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
HANDLE, CROWN & OUTER TUBE	91314-08030	BOLT, HEXAGON SOCKET HEAD	M8 x 1.25	23 – 28 (2.3 – 2.8)	2	
HANDLE, CROWN & STEERING SHAFT	90170-28419	NUT, HEX-AGON	M28 x 1.0	100 – 125 (10.2 – 12.7)	1	
HANDLE & OUTER TUBE	91314-08030	BOLT, HEXAGON SOCKET HEAD	M8 x 1.25	28 – 35 (2.8 – 3.6)	2	
STEERING SHAFT and RING NUT	90179-30691	NUT	M30 x 1.0	12 – 15 (1.2 – 1.5)	1	
OUTER TUBE & UNDER BRACKET	91314-08030	BOLT, HEXAGON SOCKET HEAD	M8 x 1.25	20 – 25 (2.0 – 2.5)	4	
E/G BRACKET, FRONT	95024-10040	BOLT, FLANGE (SMALL HEAD)	M10 x 1.25	35 – 45 (3.6 – 4.6)	2	
E/G BRACKET, REAR UPPER	90105-12228	BOLT, FLANGE	M12 x 1.25		1	
	90179-12248	NUT	M12 x 1.25	58 – 70 (5.9 – 7.1)	1	
E/G BRACKET, REAR UNDER	90105-12228	BOLT, FLANGE	M12 x 1.25		1	
	90179-12248	NUT	M12 x 1.25	58 – 70 (5.9 – 7.1)	1	
MAIN FRAME & REAR FRAME	90149-10002	SCREW	M10 x 1.25	33 – 40 (3.3 – 4.1)	4	
PIVOT SHAFT & FRAME	2C0-22141-10	SHAFT, PIVOT	M32 x 1.5	12 – 19 (12.2 – 1.9)	1	
ARM, RELAY 1 & FRAME	90109-10017	BOLT	M10 x 1.25		1	SCREW IN FROM THE LEFT SIDE
	95602-10200	NUT, U FLANGE	M10 x 1.25	31 – 49 (3.2 – 5)	1	
ARM, RELAY 1 & ARM 1	90109-12010	BOLT	M12 x 1.25		1	SCREW IN FROM THE LEFT SIDE
	90185-12119	NUT, SELF LOCKING	M12 x 1.25	31 – 49 (3.2 – 5)	1	

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
ARM 1 & REAR ARM	90109-12010	BOLT	M12 x 1.25		1	SCREW IN FROM THE LEFT SIDE
	90185-12119	NUT, SELF LOCKING	M12 x 1.25	31 – 49 (3.2 – 5)	1	
REAR CUSHION & ARM, RELAY 1	90109-12011	BOLT	M12 x 1.25		1	SCREW IN FROM THE LEFT SIDE
	90185-12119	NUT, SELF LOCKING	M12 x 1.25	31 – 49 (3.2 – 5)	1	
CHAIN PULLER ADJUST NUT	95604-08200	NUT, U FLANGE	M8 x 1.25	12 – 19 (12.2 – 1.9)	2	
SHAFT, PIVOT & LOCK NUT	2C0-22252-00	NUT 2	M32 x 1.5	75 – 115 (7.6 – 11.7)	1	
SHAFT, PIVOT & U NUT	90185-22002	NUT SELF LOCKING	M22 x 1.5	55 – 85 (5.6 – 8.7)	1	
FUEL PUMP & FUEL TANK	90110-05028	BOLT, HEXAGON SOCKET HEAD	M5 x 0.8	3 – 5 (0.3 – 0.5)	6	
FRONT STAY for FUEL TANK & FRAME	90110-06233	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	5 – 8 (0.5 – 0.8)	1	
Mid portion of FUEL TANK & STAY	91312-06016	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	7 – 10 (0.7 – 1.0)	2	
BRACKET, TANK (rear) & FUEL TANK	91312-06090	BOLT, HEXAGON SOCKET HEAD	M6 x 1.0	5 – 8 (0.5 – 0.8)	1	
BRACKET, TANK (rear) & REAR FRAME	90111-06071	BOLT, HEXAGON SOCKET BUTTON	M6 x 1.0	5 – 8 (0.5 – 0.8)	4	
FRONT WHEEL SHAFT & FR FORK	90105-14002	BOLT, FLANGE	M14 x 1.5		1	
REAR WHEEL SHAFT & NUT	90185-24007	NUT, SELF LOCKING	M24 x 1.5	90 – 130 (9.2 – 13.3)	1	
FR CALIPER & FR FORK	90401-10012	BOLT, UNION	M10 x 1.25	30 – 40 (3.1 – 4.1)	4	
DISC BRAKE & FR WHEEL	90149-06043	SCREW	M6 x 1.0	14 – 22 (1.4 – 2.2)	10	APPLY LOCK-ING AGENT (LOCKTITE®).
DISC BRAKE & RR WHEEL	90149-08009	SCREW	M8 x 1.25	23 – 37 (2.3 – 3.8)	5	APPLY LOCK-ING AGENT (LOCKTITE®).

To be tightened	Part No.	Part Name	Screw dia. x pitch	Tightening torque N•m (kgf•m)	Q'ty	Remarks
REAR WHEEL SPROCKET & CLUTCH HUB	90185-10009	NUT, SELF LOCKING	M10 x 1.25	90 – 109 (9.2 – 11.1)	6	
SPLIT BOLT for FRONT AXLE	91314-08040	BOLT, HEXAGON SOCKET HEAD	M8 x 1.25	18 – 23 (1.8 – 2.3)	4	

Tightening the Cylinder Head

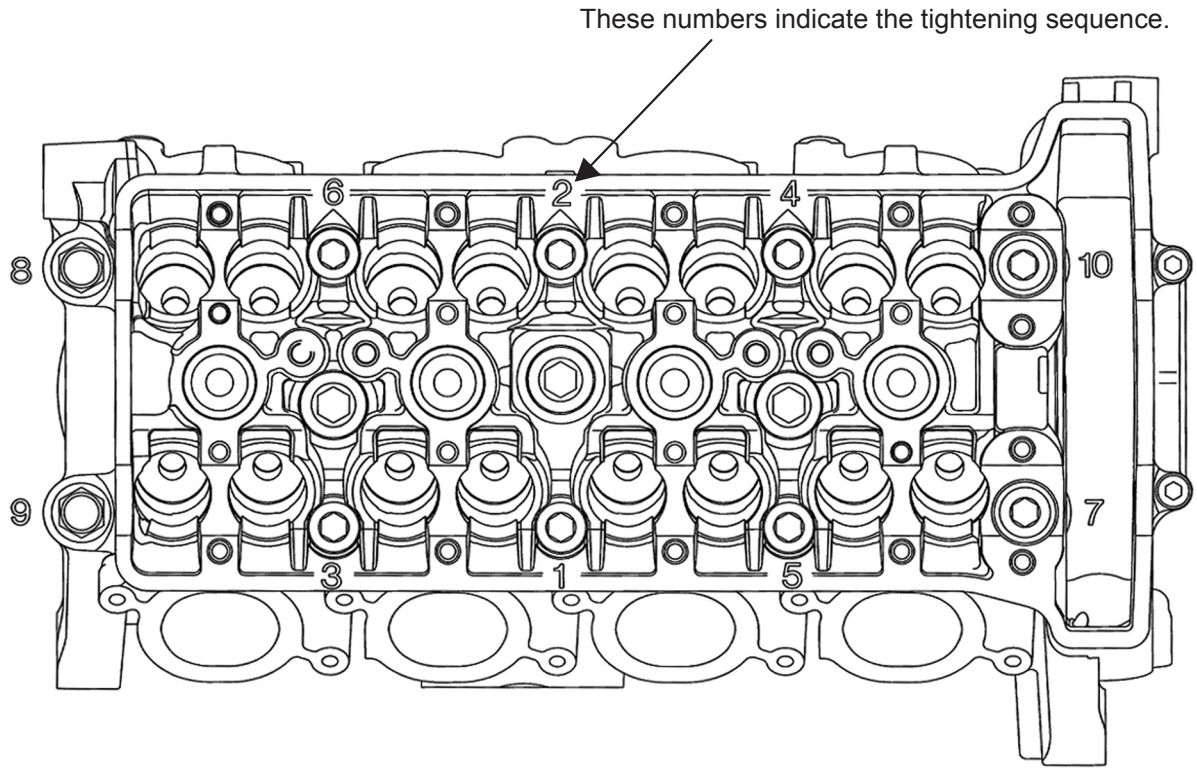
Tightening the Cylinder Head (Turn-of-Nut Method)

1. Tighten the bolts in the tightening sequence of 1 to 7 to a snug torque of 28N•m (2.8kgf•m).
2. Tighten the bolts in the tightening sequence of 8 and 9 to a snug torque of 36N•m (3.6kgf•m).
3. Tighten the bolt in the tightening sequence of 10 to a snug torque of 28N•m (2.8kgf•m).
4. Retighten the bolts in the tightening sequence of 1 to 10 to a turn-of-nut angle of 55°.

NOTE:

The numbers 1 to 10 show the sequence in which the bolts are tightened.

Apply engine oil to the bolt threads, contact surfaces, and washers.



Installing the Crankcase

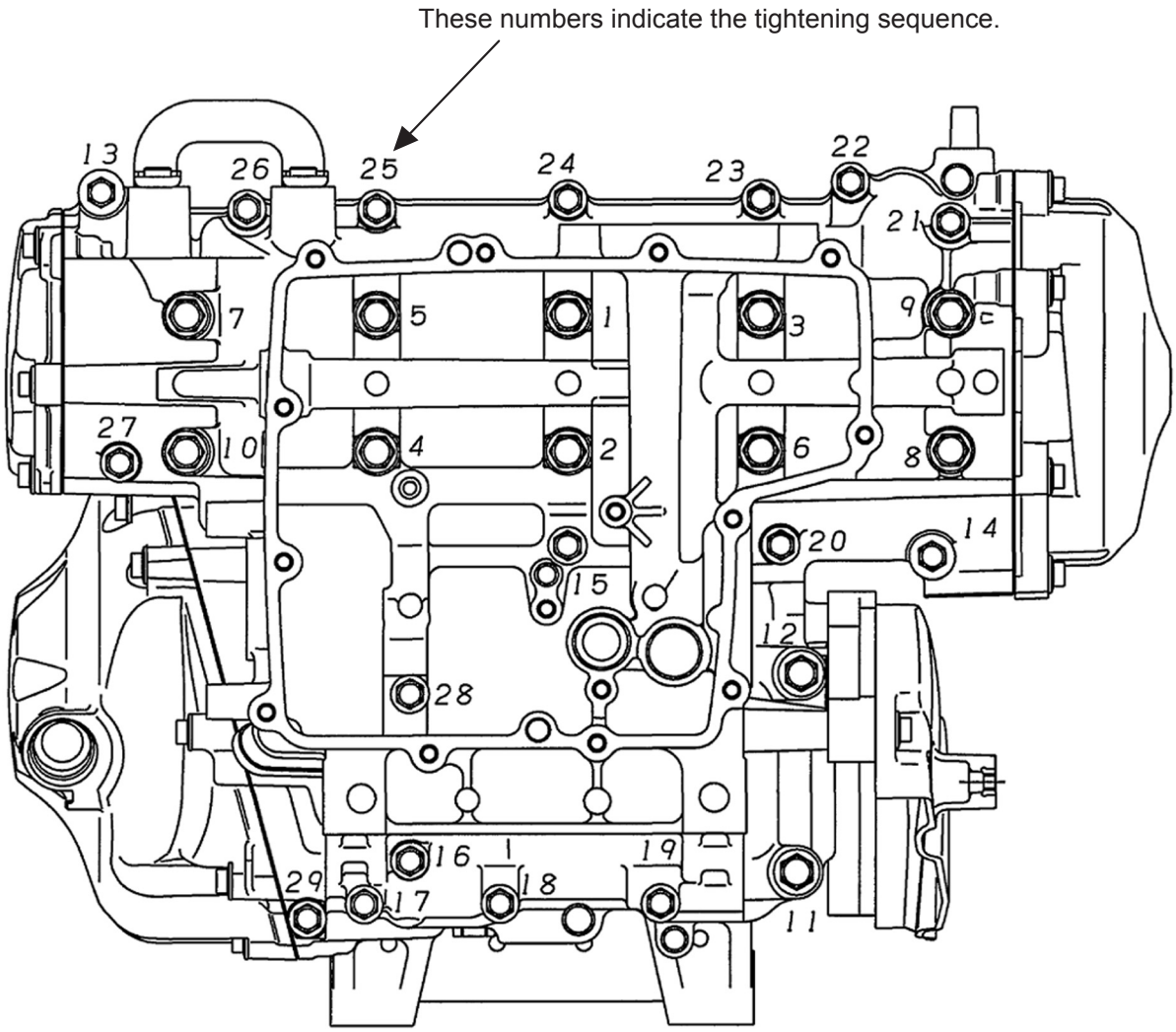
Tightening the bolts

1. Tighten the bolts in the tightening sequence of 1 to 10 to 20N•m (2.0kg•m).
2. After loosening the bolts once in the tightening sequence of 1 to 10, retighten them one by one to 12N•m (1.2kg•m).
3. Retighten the bolts in the tightening sequence of 1 to 7 to a turn-of-nut angle of 50°±5°.
4. Retighten the bolts in the tightening sequence of 8 and 9 to a turn-of-nut angle of 75°±5°.
5. Retighten the bolt in the sequence of 10 to a turn-of-nut angle of 50°±5°.
6. Tighten the bolts in the tightening sequence of 11 and 12 to 24±2N•m (2.4±0.2kgf•m).
7. Tighten the bolts in the tightening sequence of 13 to 29 to 10±2N•m (1.0±0.2kgf•m).

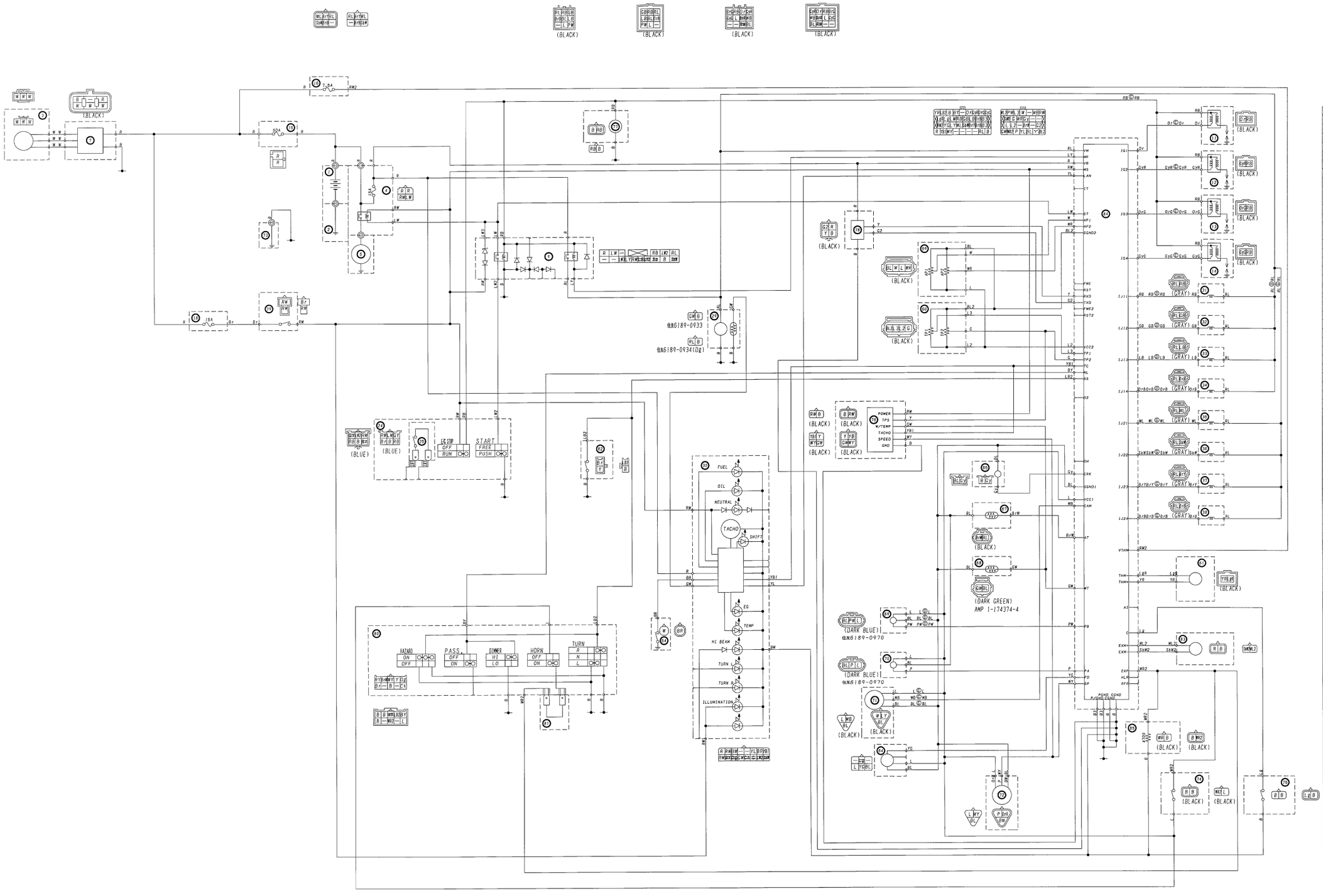
NOTE:

The numbers 1 to 29 show the sequence in which the bolts are tightened.

Apply engine oil to the bolt threads and both sides of the washers.



4 YZF-R6 Wiring Diagram



No.	COMPONENTS
1	BTRY.
2	WIRE MINUS LEAD
3	ACM
4	STARTER RELAY
5	STARTER MOTOR
6	–
7	REC/REGU
8	–
9	RELAY ASSY
10	–
11	IG.COIL 1
12	IG.COIL 2
13	IG.COIL 3
14	IG.COIL 4
15	MAIN FUSE
16	FUSE(ETV)
17	–
18	FUSE(IGNITION)
19	–
20	–
21	–
22	–
23	–
24	SW.HANDLE R
25	FR.STOP SW.
26	–
27	–
28	–
29	FUEL PUMP
30	METER
31	INJECTOR 11
32	INJECTOR 12
33	INJECTOR 13
34	INJECTOR 14
35	INJECTOR 21
36	INJECTOR 22
37	INJECTOR 23
38	INJECTOR 24
39	–
40	–
41	–
42	–
43	–
44	–
45	–
46	–
47	–
48	–
49	–
50	–
51	–
52	–
53	–
54	OIL LEVEL GAUGE
55	–
56	–
57	–
58	–
59	APS
60	TPS
61	THROTTLE MOTOR
62	–
63	–
64	SENSOR, LEAN ANGLE
65	CRANK SHAFT SENSOR
66	–
67	AIR TEMP SENSOR
68	WATER TEMP SENSOR
69	PRESSURE SENSOR(Pb)
70	PRESSURE SENSOR(Pa)
71	CAM SHAFT SENSOR
72	SPEED SENSOR
73	E/G EARTH
74	E/G STOP SW.
75	SELECT SW.
76	MEASUREMENT TOOL
77	POWER SUPPLY
78	P/C I/F
79	MAIN SW.
80	SW.HANDLE
81	SUB-LD
82	PIT ROAD LIMIT SW.
83	VI MOTOR
84	ECU
85	RESISTOR ASSY.

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